2008 Defense Industrial Base – Critical Infrastructure Protection Conference (DIB-CBIP)

Miami, FL

7-9 April 2008

Agenda

Tuesday, April 8

DOD Keynote Address- DOD Support to Preparedness & Response
Mr. Peter F. Verga, Principal Deputy Assistant Secretary of Defense, Homeland Defense and Americas' Security Affairs

Cyber Security and Information Assurance
Lieutenant General Robert J. Elder, USAF, Joint Functional Component Commander for Global Strike and Integration, U.S. Strategic Command

"The Business of Vulnerabilities- How Economics is Driving Cyber Threats to Infrastructure"
Mr. Aaron Turner, Cyber Security Strategist, Idaho National Laboratory

"Cyber Security Overview & Update…The State of U.S. Cyber Security" Mr. Richard Hale, Chief Information Assurance Executive, DISA

Panel- Cyber Security; Industry and Government Best Practices
Moderator: Mr. Rick Anderson, Deputy Director, Defense Industrial Base Cyber Security Task Force
Panel:

Supply Chain/Response Management
Mr. John Rank, Vice President, Supply Chain, General Dynamics

Wednesday, April 9

Intelligence & Threat Warning; Opportunities For Public/Private Partnerships
Mr. Ronald T. "Rudy" Guerin, Executive Vice President, Pamir Resources & Consulting, Inc.

Panel – Improving the Sharing and Reliability of Public and Private Threat and Hazard Information
Moderator: Mr. Steve Lines, Director, Information Assurance, SAIC

Monday, April 7

2:00pm - 5:00pm	**CIPAC Meeting (Invitation Only)**
5:00pm - 6:30pm	**DIB CIP Exhibits Open**
5:00pm - 6:30pm	**Registration and Reception (Cash Bar)**

Tuesday, April 8

7:00am - 8:00am	**Registration and Continental Breakfast**
8:00am	**Welcoming Remarks** MG Barry D. Bates, USA (Ret), Vice President-Operations, NDIA
8:15am	**Conference Overview and Objectives** Mr. Antwane Johnson, Director, Critical Infrastructure Protection, OASD (HD&ASA)
8:30am	**DOD Keynote Address- DOD Support to Preparedness & Response** Mr. Peter F. Verga, Principal Deputy Assistant Secretary of Defense, Homeland Defense and Americas' Security Affairs
9:15am	**Cyber Security and Information Assurance** Lieutenant General Robert J. Elder, USAF, Joint Functional Component Commander for Global Strike and Integration, U.S. Strategic Command
10:00am	**Break in Exhibits Area**
10:00am - 6:00pm	**Exhibits Open**
10:15am	**"The Business of Vulnerabilities- How Economics is Driving Cyber Threats to Infrastructure"** Mr. Aaron Turner, Cyber Security Strategist, Idaho National Laboratory
10:45am	**"Cyber Security Overview & Update…The State of U.S. Cyber Security"** Mr. Richard Hale, Chief Information Assurance Executive, DISA
11:30am	**Panel- Cyber Security; Industry and Government Best Practices** **Moderator:** Mr. Rick Anderson, Deputy Director, Defense Industrial Base Cyber Security Task Force **Panel:** • Mr. Jerry Cochran, Principal Security Strategist, Trustworthy Computing/CIP, Microsoft Corporation • Mr. Tommy Augustsson, Vice President, Information Technology, General Dynamics Corporation • Mr. Richard Hale, Chief Information Assurance Executive, DISA • Dr. Mark Thomas, Senior Advisor, Defense Industrial Base Task Force

12:30pm	**Lunch**
2:00pm	**Supply Chain/Response Management** Mr. John Rank, Vice President, Supply Chain, General Dynamics
2:45pm	**Break in Exhibits Area**
3:00pm	**Panel- Supply Chain/RM; Global Supply Chain Vulnerability and Security Issues** **Moderator:** Robert Connors, CBCP, MBCI, Director, Preparedness, Raytheon Company **Panel:** • Mr. William Osborne, Director, Engineering and Network Systems, General Dynamics Corporation • Mr. Gene Tyndall, President, Supply Chain Executive Advisors • Mr. Caleb Jones, Assistant Vice president, Risk Management, Alion Science and Technology • Mr. Sydney Pope, Industrial Policy Advocate, Electronic Systems and Information Technologies, ODUSD (Industrial Policy)
4:30pm	**Session Wrap-up and Closing Remarks**
4:30pm - 6:00pm	**Hosted Reception in the Exhibits Area**

Wednesday, April 9

7:00am - 8:00am	**Registration and Continental Breakfast**
8:00am	**Welcoming Remarks** MG Barry D. Bates, USA (Ret), Vice President-Operations, NDIA
8:15am	**Industry Keynote Address - A Corporate-Wide View to Security and Business Continuity** Mr. Stephen Colo, Senior Vice President and Chief Security Officer, SAIC
9:00am	**Intelligence & Threat Warning: Combating the Insider Threat (Physical, Personnel, Procedural and Information Systems)** Lieutenant General Patrick Hughes, USA (Ret), Vice President Intelligence and Counterintelligence, L3-Communications
9:45am	**Break in Exhibits Area**
9:45am - 2:20pm	**Exhibits Open**
10:15am	**Intelligence & Threat Warning; Opportunities For Public/Private Partnerships** Mr. Ronald T. “Rudy” Guerin, Executive Vice President, Pamir Resources & Consulting, Inc.
11:00am	**Panel – Improving the Sharing and Reliability of Public and Private Threat and Hazard Information**

Moderator: Mr. Steve Lines, Director, Information Assurance, SAIC

Panel:

- Mr. Ray Musser, Director, Corporate Security, General Dynamics Corporation
- Special Agent Chuck Frahm, Deputy Assistant Director, FBI
- Mr. Vince Jarvie, Vice-President, Corporate Security, L-3 Communications
- Mr. Steve Shirley, Executive Director, Defense Cyber Crime Center (DC3)

12:15pm **Lunch Presentation**
Mr. Robert Stephan, Assistant Secretary for Infrastructure Protection, DHS

2:15pm **Session Wrap-up and Closing Remarks**
MG Barry D. Bates, USA (Ret), Vice President -Operations, NDIA

2:20pm **Conference Wrap up**
Mr. Peter F. Verga, Principal Deputy Assistant Secretary of Defense, Homeland Defense and Americas' Security Affairs

POLICY

National Strategy for Homeland Security

Letter, Oct 5, 2007 – New Emphasis on Cyber Security

-POTUS

- *A variety of actors threaten the security of our cyber infrastructure.* ***Terrorists increasingly exploit the Internet to communicate, proselytize, recruit, raise funds, and conduct training and operational planning. Hostile foreign governments have the technical and financial resources to support advanced network exploitation and launch attacks on the informational and physical elements of our cyber infrastructure.***

- *In order to secure our cyber infrastructure* ***against these man-made and natural threats, our Federal, State, and local governments, along with the private sector, are working together to prevent damage to, and the unauthorized use and exploitation of, our cyber systems.***

POLICY

Cyber Security; Government and Industry Best Practices Panel Members

Dr. Tommy Augustsson, CIO General Dynamics,
taugusts@generaldynamics.com, 703-876-3473

Mr. Jerry Cochran, Principal Security Strategist, Microsoft
Jerry.Cochran@microsoft.com

Mr. Richard Hale, Chief Information Assurance Executive, DISA
Richard.hale@disa.mil 703-882-1500

Dr. Mark Thomas, Senior Advisor, Army DIB Task Force
Mark.Thomas2@us.army.mil 703-697-9424

Mr. L. Rick Anderson, Dep, Dir DIB Cyber Security Task Force
Levon.Anderson@osd.mil 703-604-5523, ext 123

POLICY

Cyber Security; Government and Industry Best Practices Panel

What are some of the major partnership challenges between DOD and Industry as related to cyber security info sharing and reporting? Provide possible or proven solutions if applicable (e.g., technology, procedural, regulatory, etc...).

Headquarters Eighth Air Force

Integrity - Service - Excellence

Cyber Domain Protection and the National Defense

NDIA Defense CIP Conference 2008

Lt Gen Bob Elder

8 April 2008

This Briefing is:
UNCLASSIFIED

Cyber Domain Global Impact

THREATS

- **"… today, when individuals can easily access all the tools of collaboration and superempower themselves, or their small cells, individuals do not need to control a country to threaten large numbers of people."**

OPPORTUNITIES

- **"We need to think more seriously than ever about how we encourage people to focus on productive outcomes that advance and unite civilization."**

From *The World is Flat*, Thomas L. Friedman

Estonia

“IMAGINE that agents of a hostile power, working in conjunction with organised crime, could … paralyse business, the media, government and public services, and cut you off from the world. That would be seen as a grave risk to national security, surely?”

- Peter Schrank, on Estonia in “The Economist,” May 07

Increased Commercial Use of Cyber

- Communication & Information Sharing
- Social Networking
- Production Controls
- Education and Creativity
- Productivity Enhancement
- Navigation
- e-Commerce (and e-Barter)
- Banking & Finance
- Entertainment

Lessons from 9-11, Hurricane Katrina:

We are increasingly dependent on cyber use for business, public safety, and daily life

Cyber Criminal Activities

Rank	Item	Percentage	Price Range
1	Credit Cards	22%	$0.50-$5
2	Bank Accounts	21%	$30-$400
3	E-mail Passwords	8%	$1-$390
4	Mailers	8%	$8-$10
5	E-mail Addresses	6%	$2/MB-$4/MB
6	Proxies	6%	$0.50-$3
7	Full Identity	6%	$10-$150
8	Scams	6%	$10/week
9	Social Security Numbers	3%	$5-$7
10	Compromised Unix Shells	2%	$2-$10

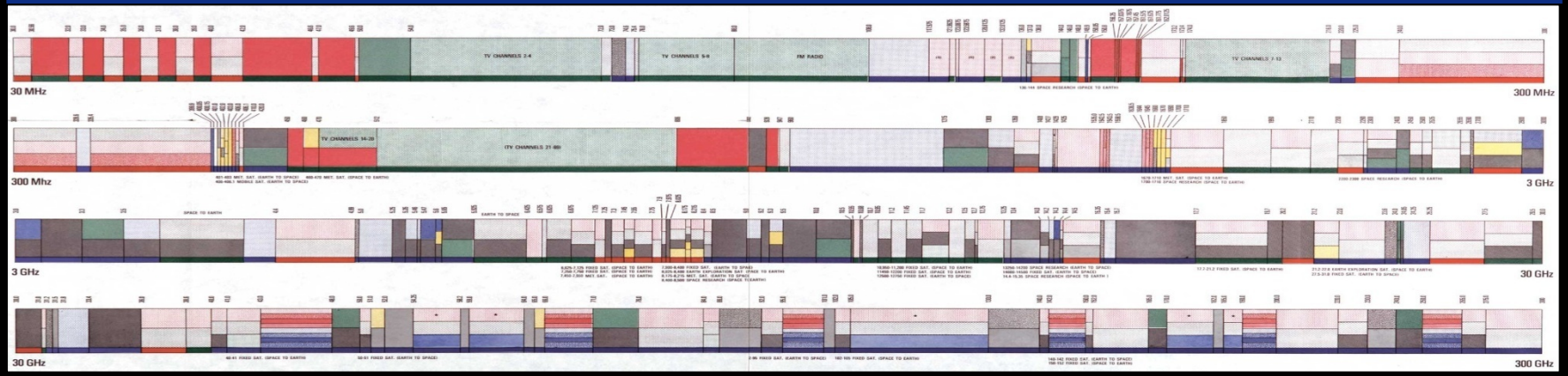
Breakdown of goods available on underground economy servers
Source: Symantec Corporation, Sep 2007

Sources of Malicious Activity

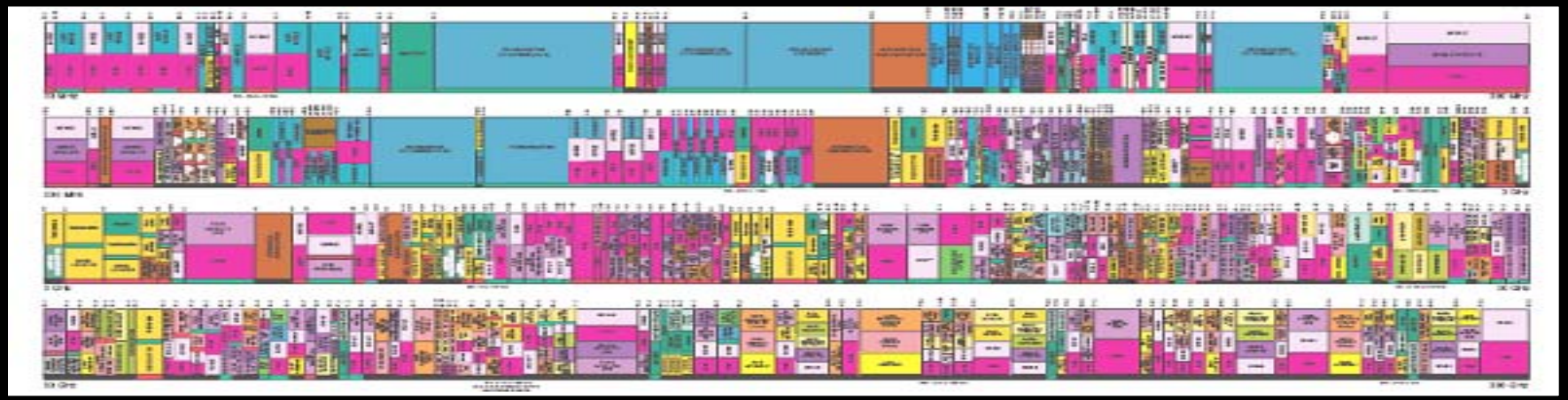
Overall Rank	Country	Overall Proportion	Malicious Code Rank	Spam Zombie	Cmd&Ctrl Server Rank	Phishing Websites	Bot Rank
1	USA	30%	1	1	1	1	2
2	China	10%	2	3	5	18	1
3	Germany	7%	7	2	2	2	3
4	UK	4%	3	15	6	3	7
5	France	4%	9	7	12	6	5
6	Canada	4%	6	31	3	7	8
7	Spain	3%	10	10	22	13	4
8	Italy	3%	5	6	8	12	6
9	S. Korea	3%	26	8	4	10	13
10	Japan	2%	4	20	13	8	16

Malicious Activity by Country
Source: Symantec Corporation, Sep 2007

Growing Dependence on Electromagnetic Spectrum



1975 Frequency Allocation Chart



2007 Frequency Allocation Chart

Cyber Espionage

"Espionage used to be a problem for the FBI, CIA and military, but now it's a problem for corporations," Brenner said. "It's no longer a cloak-and-dagger thing. It's about computer architecture and the soundness of electronic systems."

Joel Brenner, ODNI Counterintelligence Office

As reported in "Espionage Network Said to Be Growing" Washington Post, 3 April 2008

2007 Air Force Cyber Study

- Cyber will continue to be a contested environment.
- **The infrastructure on which the Air Force depends is controlled by both military and commercial entities and is vulnerable to attacks and manipulation.**
- Operations in the cyber domain have the ability to impact operations in other war-fighting domains.
- Air Force must maintain capability to operate when the reception, processing, and distribution of vital information is challenged.
- Nation must defend against **data manipulation** and denial of service; it's not just an issue of data theft

Overview

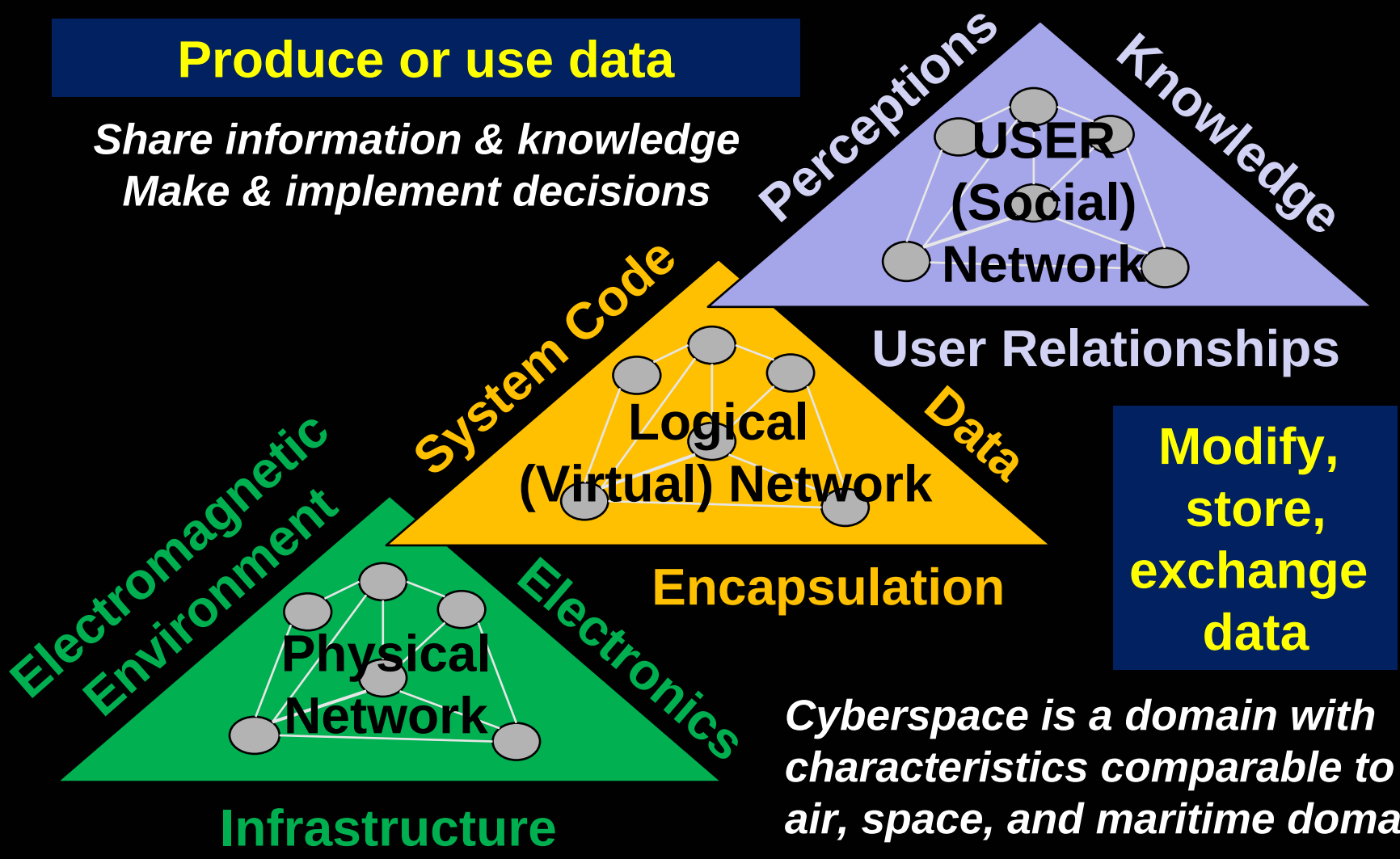
- Cyberspace as an Operational Domain
- National Security Operations in the Cyber Domain
- Cyber Domain Defense and Protection

The Mission of the United States Air Force **is to provide** ***sovereign options*** **for the defense of the US and its global interests—to fly and fight in** ***air, space, and cyberspace*****.**

Cyberspace Domain Elements

Produce or use data

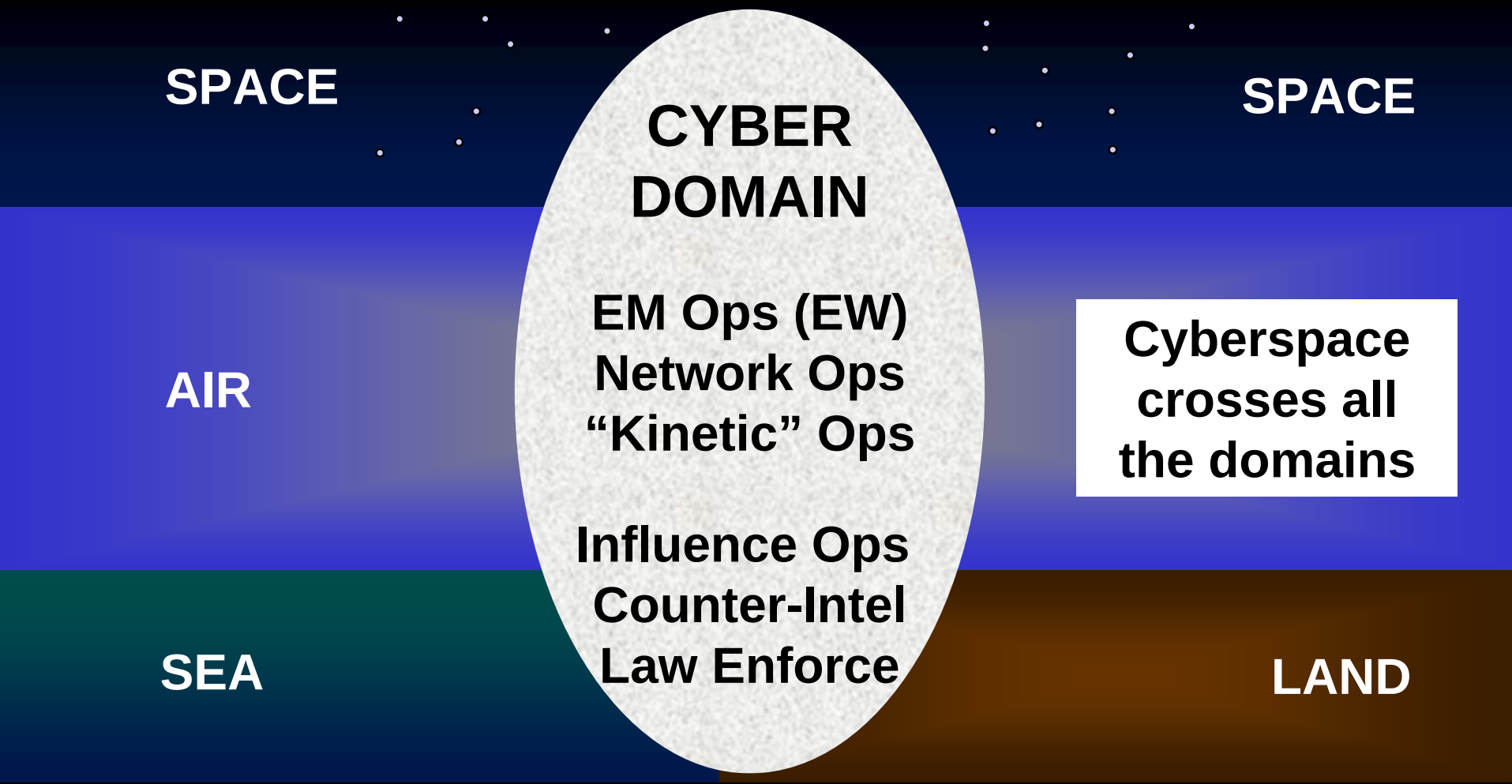
Share information & knowledge
Make & implement decisions



Modify, store, exchange data

Cyberspace is a domain with characteristics comparable to the air, space, and maritime domains.

Cyber Cross-domain Relationships



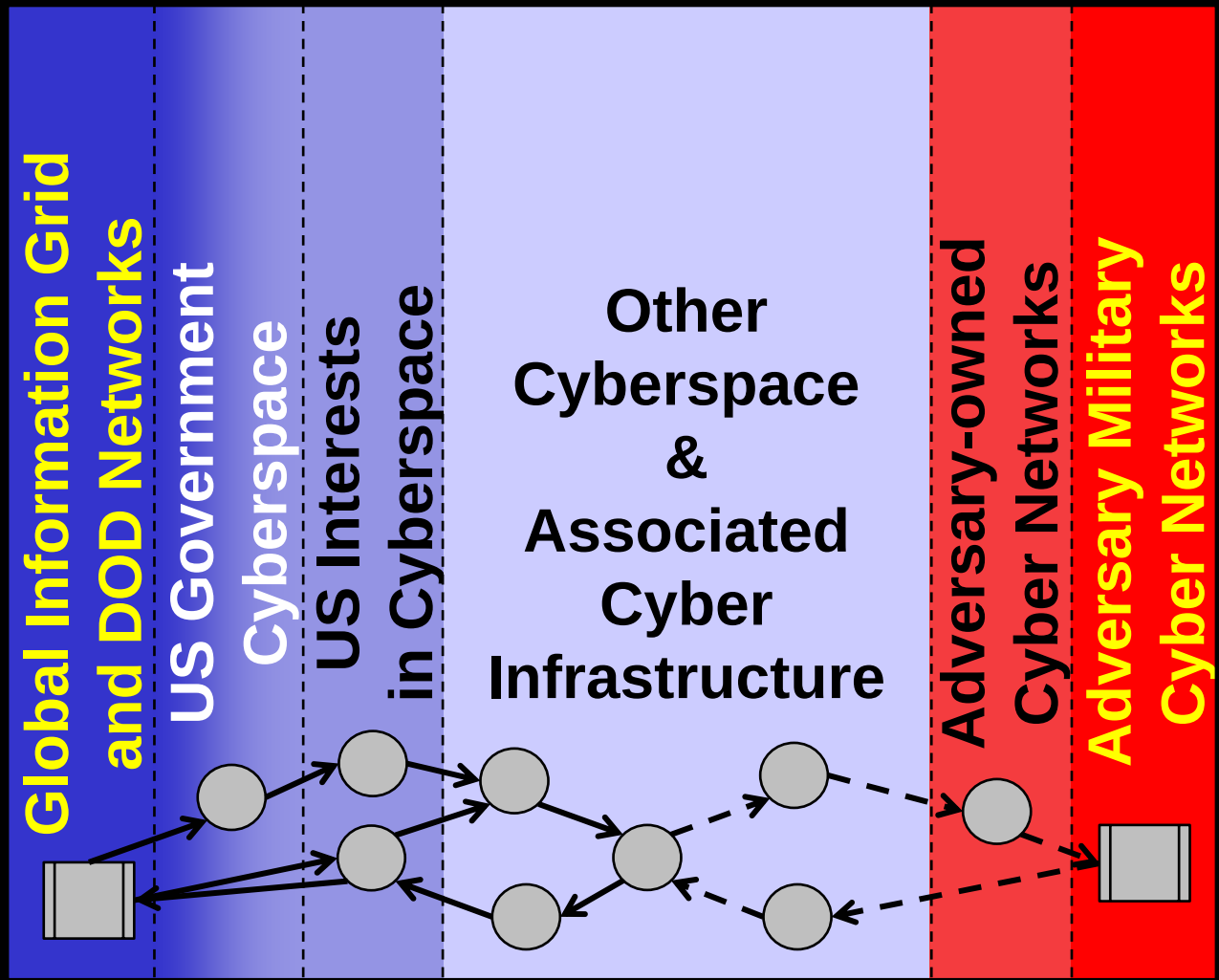
Cyber ops require global and theater integration across all domains

Cyber Domain Exploitation

- Government Activities
- Military Operations
- Intelligence Collection
- Banking & Finance
- Police & Security
- Utility Management
- Terrorist Activities
- Criminal Activities
- Admin & Logistics
- Health Services
- Sales & Marketing
- Education
- Social Networking
- Information Management
- Knowledge Management
- Entertainment

Cyber Ops Planning "Terrain" Map

United States and friendly Cyber elements



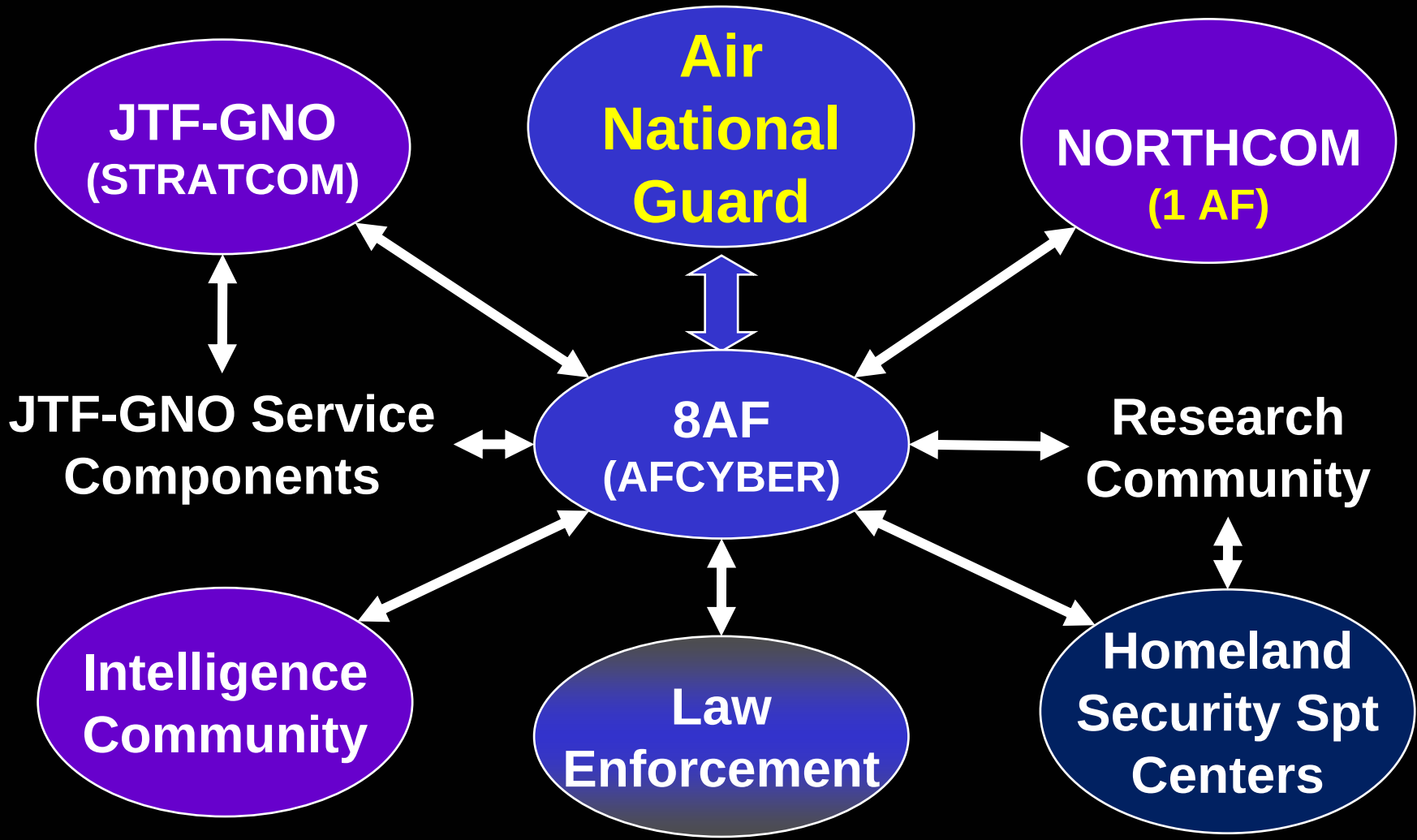
Adversary Cyber elements

The National Strategy to Secure Cyberspace (DHS lead)

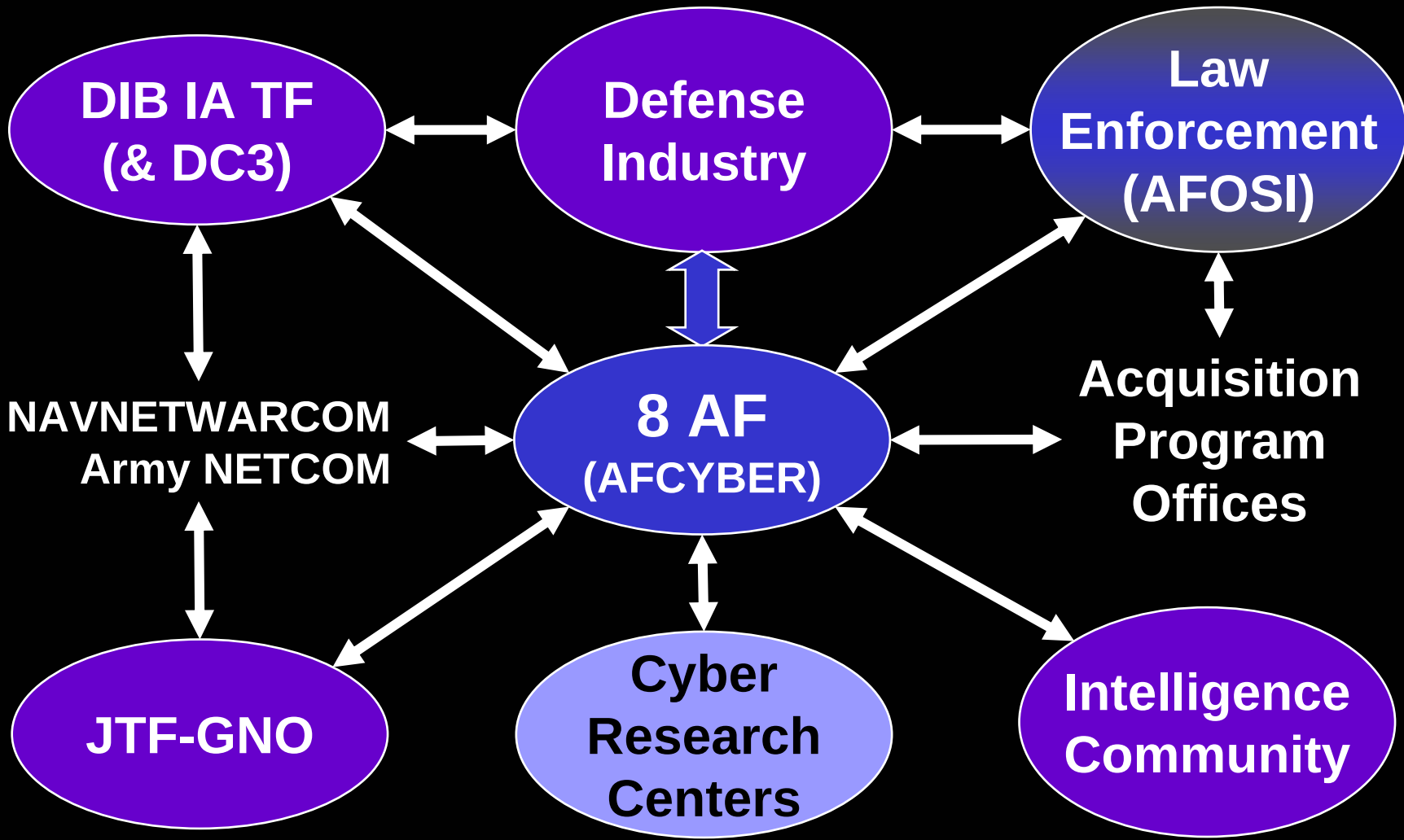
- Establish a **public-private architecture** for national response
- Provide for the development of tactical and strategic analysis of cyber attacks and vulnerability assessments
- Encourage the development of a **private sector capability** to share a synoptic view of the health of cyberspace
- Expand the Cyber Warning and Information Network to support DHS cyberspace crisis management
- Improve national incident management
- Coordinate voluntary participation in national public-private continuity and contingency plans

- Exercise cyber security continuity plans for federal systems
- Improve and enhance **public-private information sharing** involving cyber attacks, threats, and vulnerabilities

AF Cyber Support: Civil Authorities



Cyber Support: Defense Industry



National Military Strategy for Cyberspace Ops (NMS-CO)

Ways:

- Information Operations
- Network Operations
- Kinetic Actions
- Law Enforcement
- Counter-intelligence

Enablers:

- Science & Technology
- Partnering
- Intelligence Support
- Law and policy
- Trained personnel

Joint Capability Areas:

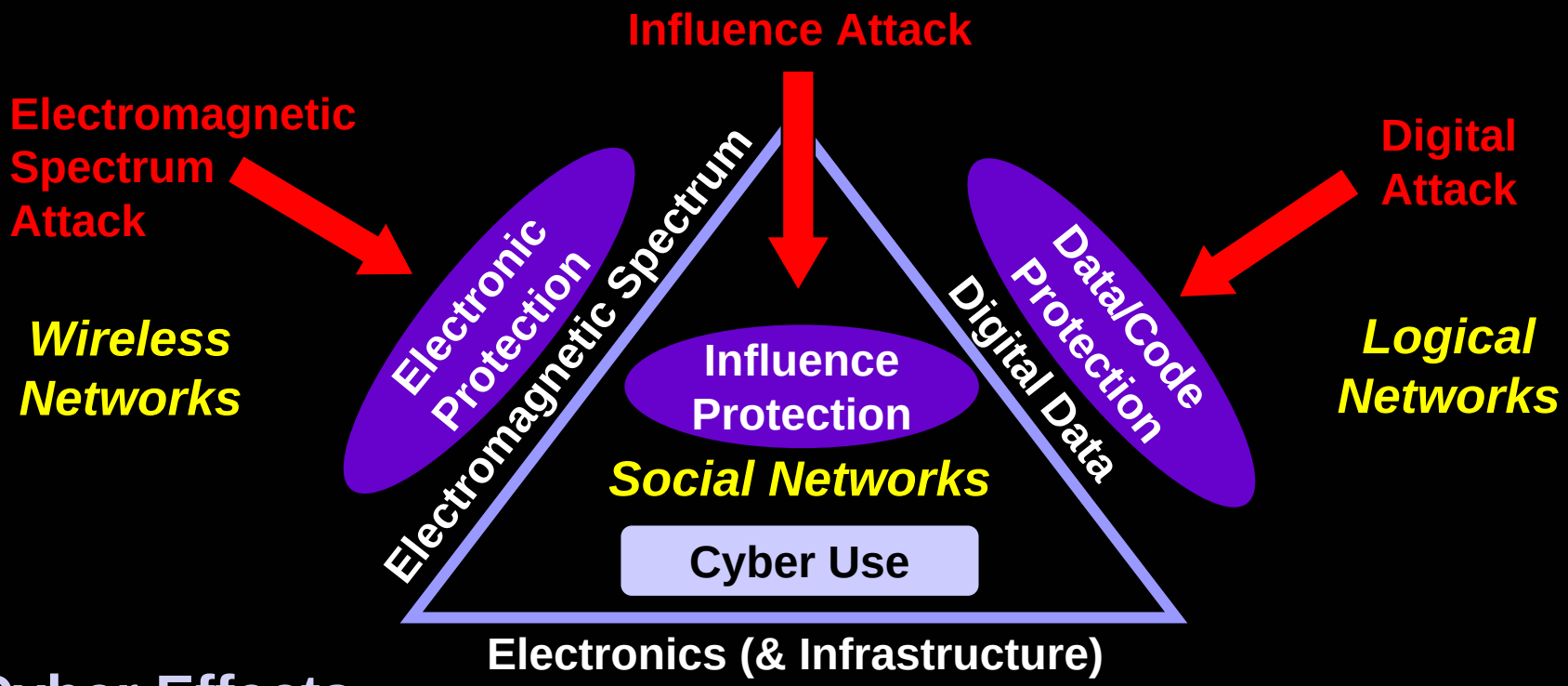
- Battlespace Awareness
- Force Generation
- Command and Control
- Information Operations
- Net-centric Operations
- Global Deterrence
- Homeland Defense
- Interagency Integration
- Non-governmental organization coordination

"Fly & Fight" in Cyberspace

- **Establish the Domain**
  - Expeditionary Cyber Ops
  - Cyber Network Ops
- **Control the Domain**
  - Defense
  - Offense
- **Use the Domain**
  - Integrated Attack
  - Force Enhancement
  - Support

Cyberspace is a *Warfighting* Domain

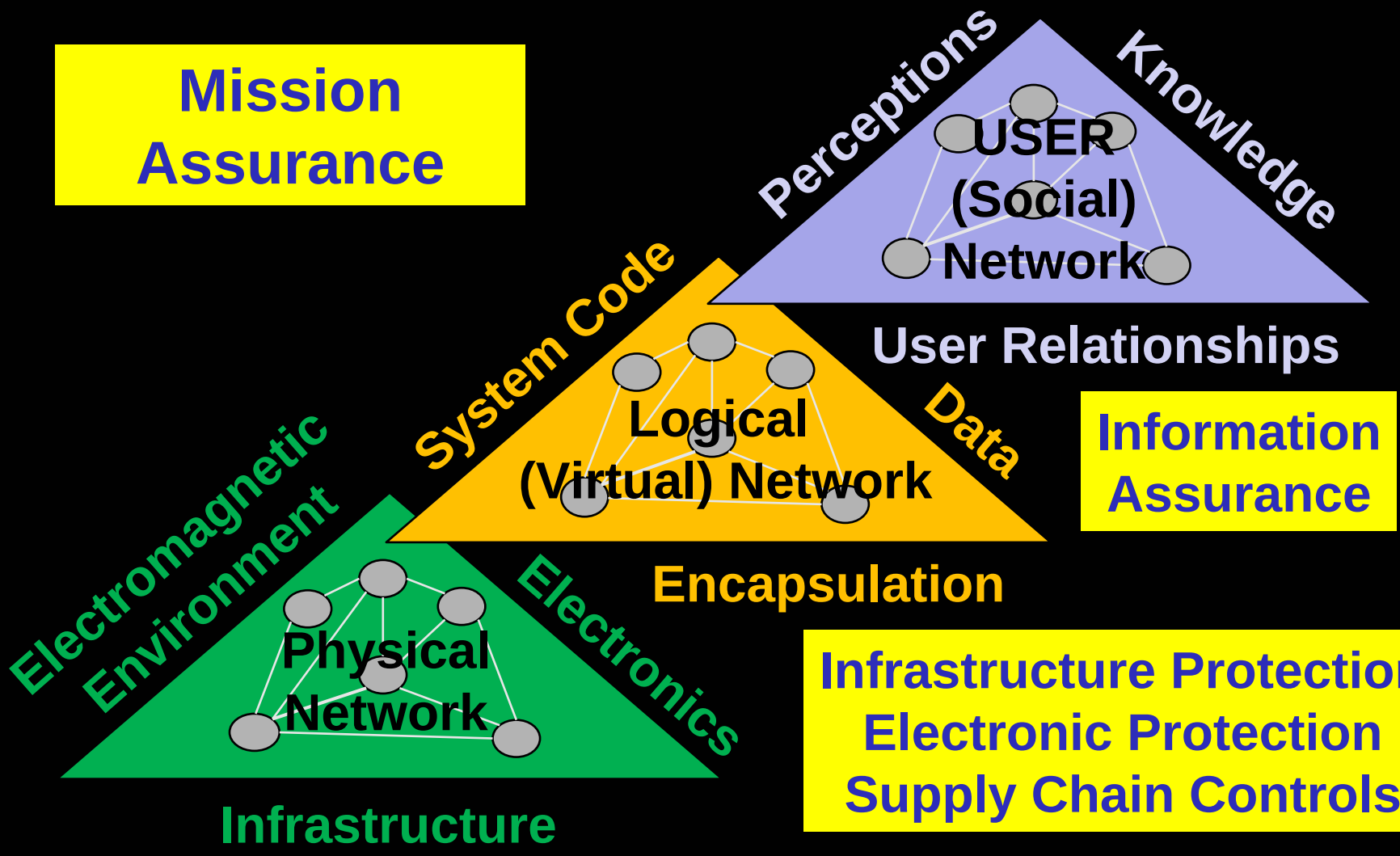
Control the Cyber Domain



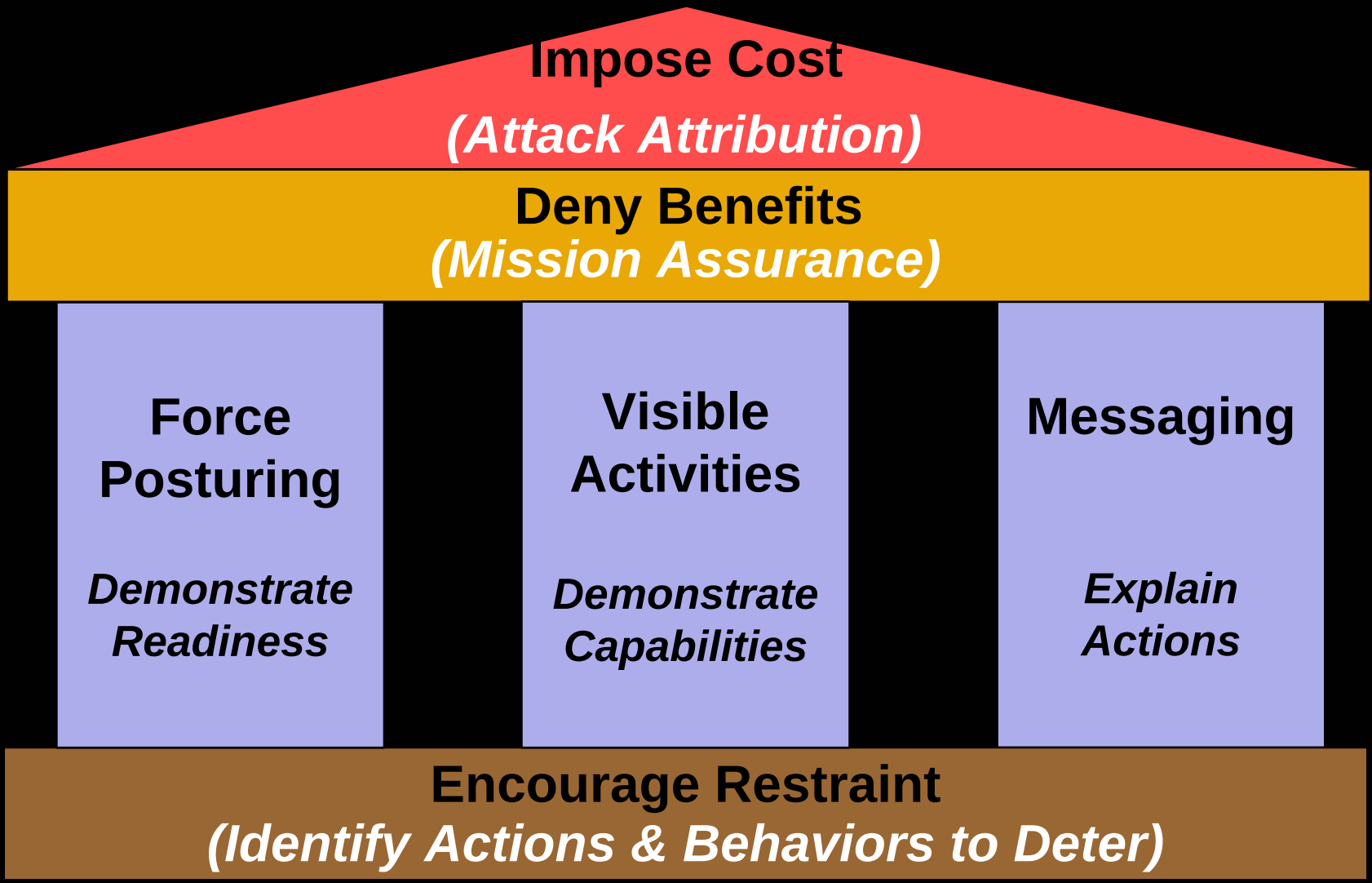
Cyber Effects:

- Denial of Service
- Confidential Data Loss
- Data Manipulation
- System Integrity Loss

Cyber Domain Protection



Cyber Deterrence



Challenges and Opportunities

Challenges

- Increased cyber dependence
- Supply chain vulnerabilities
- Infrastructure vulnerabilities
- Electronics vulnerabilities
- Sensor disruption & spoofing
- Increased wireless use
- More complex attack vectors
- Growth in cyber crime
- Encryption vulnerabilities

Opportunities

- Mission Assurance
- Attack Attribution
- Malware behavior detection
- Altered data/code detection
- Denial of service protection
- Cyber deterrence strategies
- Insider “threat” detection
- Wireless privacy systems
- Intrusion detection/intrusion prevention (IDS/IPS) systems

2008 AFSAB Cyber Study Charter

- Assess and characterize cyber protection systems used by the **U.S. defense industrial base** and their potential impacts to Air Force operations.
- Assess and characterize **current Air Force operational readiness** levels for rapid detection, assessment and response, including the ability to "fight through" a cyber attack and to quickly re-organize networks.
- Identify high leverage **technology options** for generating and maintaining operational readiness, including training, in a variety of scenarios.
- Explore the impacts of a layered defense and examine potential new constructs for creating and implementing **new network and system architectures**, for example, a "demilitarized zone (DMZ)" between the Department of Defense and external customers.
- Evaluate the effectiveness of such technology options and recommend **near-term and mid-term options for implementation**.

Summary: Cyber Domain Protection

- **Cyber is a domain** … not just computer networks
  - Co-exists with air, space, land, and sea domains
- Cyber **critical to military operations** and commerce
  - Foundation of the world's global economy
- Cyber domain elements are under attack today
  - Military vulnerable to direct and indirect attacks
- Global cyber dominance requires new competencies
  - Cyber **Weapon Systems** and **Cyber operators**
  - **Partnerships** (academia, industry, government)
- Opportunity to deter cyber attacks of mass effects
  - Enabled by **attack attribution & mission assurance**

GLOBAL EFFECTS

EIGHTH AIR FORCE

2008 DIB CIP CONFERENCE
MIAMI, FL
April 9, 2008

INTELLIGENCE AND THREAT WARNING

“THE THREAT IS CORPORATE AMERICA”

IT IS ASYMMETRIC WARFARE

Annual Report to Congress: Foreign Economic Collection and Industrial Espionage

- "Entities from 108 countries were involved in collection efforts against sensitive and protected US technologies in FY 2005"
  - Office of the National Counterintelligence Executive

According to the FBI:

Foreign entities most responsible for Economic Espionage investigations within the US:

- 1. China
- 2. India
- 3. France
- 4. Russia
- 5. Israel

The FBI's Top Five

- These countries are allowed to utilize their intelligence services to support commercial gain within their own country.

- All in the name of national security and economic gain.

SOLUTIONS

- “American organizations must begin policing their operations more aggressively today to prevent valuable data from being stolen”
  - Info World Magazine 9/14/07

FBI's DOMAIN PROGRAM

- Tasked to protect US companies sensitive information and technologies
- Corporate America is part of US national security
- Partner FBI with corporate America to identify what is at risk
- Develop plan to protect it
- Build relationships

FBI'S DOMAIN PROGRAM

- Business Alliance
- Academic Alliance
- Protect technology while in the R&D stages

GLOBAL INNOVATION DATASET

- Technology monitoring developed by Pamir and its partner
- Identified US technologies that were proliferated by foreign entities
- Looks at patent information within 120 countries
- Prevention tool against Insider Threat as well

PREVENTION PROGRAM

- From pre-employment to post-employment
- Proper prevention can diminish loss of technology, number of investigations
- Cannot just react, need to prevent
- (Request of DoJ)

DUE DILIGENCE

The importance of conducting proper Due Diligence (DD) in an emerging overseas market prior to conducting business overseas cannot be overstated

- The need to conduct DD as you continue to conduct business in foreign markets

DUE DILIGENCE

- A Due Diligence (DD) in an emerging market should include:
  - Company profile
  - Annual inspection
  - Any modification on Registration
  - Ownership
  - Shareholders
  - Executives

DUE DILIGENCE

- Investment/Affiliated enterprises
- Banking information
- Loan information
- Balance sheet
- Financial analysis
- Main operation and products
- Suppliers/customers

DUE DILIGENCE

- Criminal record (national police checks not possible in India)
- Intelligence or military affiliation
- Political or Party affiliation
- China specific: a China context analysis of what it all means
- CAUTION: Be careful to what DD vendors claim regarding the extent of their capabilities

CI AWARENESS PROGRAM

- Need to establish a counterintelligence awareness program that reaches all employees
- Need force multipliers (eyes/ears)
- Need sources
- Need to instill in employees that CI awareness is everyone's responsibility
- How to report and to whom
- Cyber responsibility

INVESTIGATIONS

- When prevention and monitoring are not enough of a deterrent
- Prosecution becomes a priority because of what is at stake
- CHI Mak case
- DOJ Task Forces
- Force multipliers
- Build relationships

Pamir
Resources & Consulting, Inc.

RUDY GUERIN

PRINCIPAL

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Defense Information Systems Agency
Department of Defense

Cyber Security, Information Assurance

Richard Hale
Chief Information Assurance Executive
Defense Information Systems Agency
April 8, 2008

Bad Guys

Bad Guy Motivation:
Gain Military Advantage *by…*

Knowing what we're going to do or what we're likely to do

Making our weapons work in unexpected ways

Causing us to lose faith in each other

Slowing our decision cycle

Fuzzing up our view of reality

– By changing information

–By participating directly in our decisions (by masquerading as us)

Etc.

Sophisticated Adversaries
aka ***Really Capable Bad Guys***

- Have a military or intelligence mission in mind
- Will plan and select the plan with the best combination of effectiveness, (low) risk to the adversary, and cost
- Are very patient, analytical, methodical, and quiet
- Have advanced resources and tradecraft
- Can select the attack method, the target, the time, and the place

What’s Our Business?

…Twin Goals for Cyber Security/Information Assurance

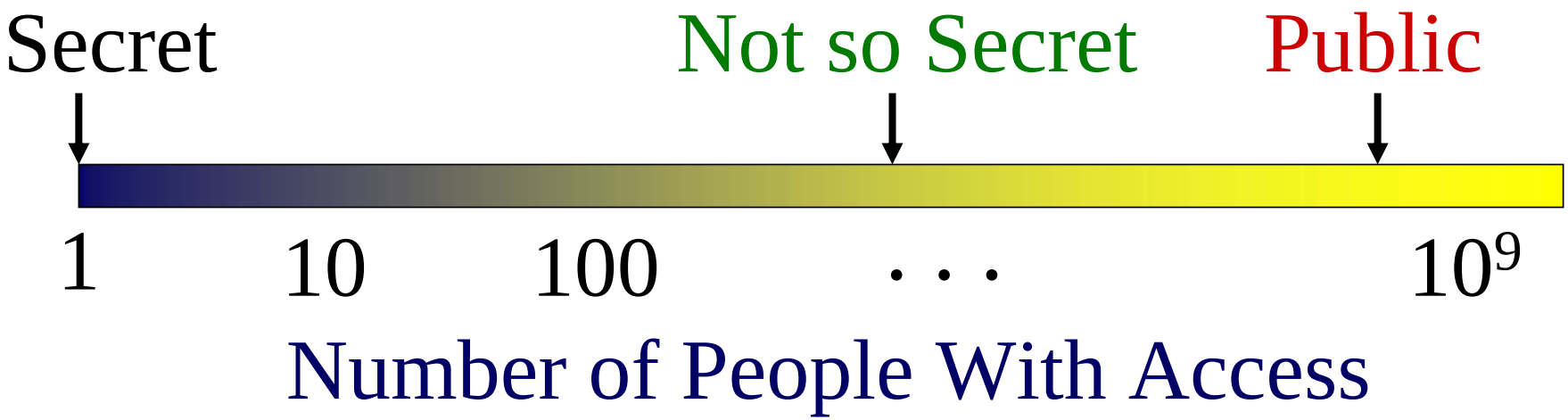
1. Ensuring that our customers can depend on information and on the information infrastructure in the face of physical and cyber attack

(Mission Assurance, or, *we're all really* ***dependability*** *experts*)

2. **Ensuring that our customers can keep a secret (when they want to)**

   … and doing both while *sharing as broadly as possible*

Keeping a Secret (While Sharing Broadly)



My Customers

Anyone in DoD, and anyone involved in a mission important to DoD

We often don't know in advance with whom DoD will be working

My Oversimplification of How DoD Is Pursuing These IA (and sharing) Goals

Part 1

Limit exposure of vulnerabilities by

- ***Removing*** as many of these vulnerabilities as possible (e.g. encrypt when appropriate, configure things securely, remove unnecessary functions, eliminate passwords)
- ***Layering protections*** that incrementally limit the population with access to a given vulnerability (defense-in-depth)
- ***Designing*** what DoD looks like to partners, to the public, to adversaries

Part 2

Drive-out anonymity (and enable net-centricity and improve sharing) by broad use of non-spoofable cyber identity credentials (aka ***PKI***)

- Minimize whole classes of worries; brings accountability, *worries some classes of bad guys*

Build and operate an **attack detection and diagnosis** capability that allows rapid, sure, **militarily useful reaction** to cyber attacks

Improve joint, coalition, interagency, & industry partner cyber operations/ NETOPS so the above is possible

The Basics: Secure Configuration

(Or…configuring *everything* securely, keeping everything configured securely, and ensuring the right people know this is so, or not so)

1. **Define:** Configuration guides with NSA, NIST, industry, military services, DISA

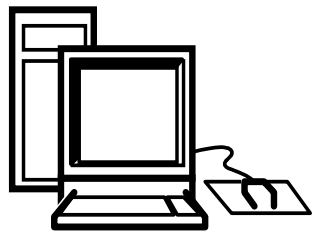
2. **Buy it pre-configured**

3. **Configure it** (Automate)

4. **Measure it** (Automate)

5. **Change it** (Automate)

6. **Report it** (Automate)



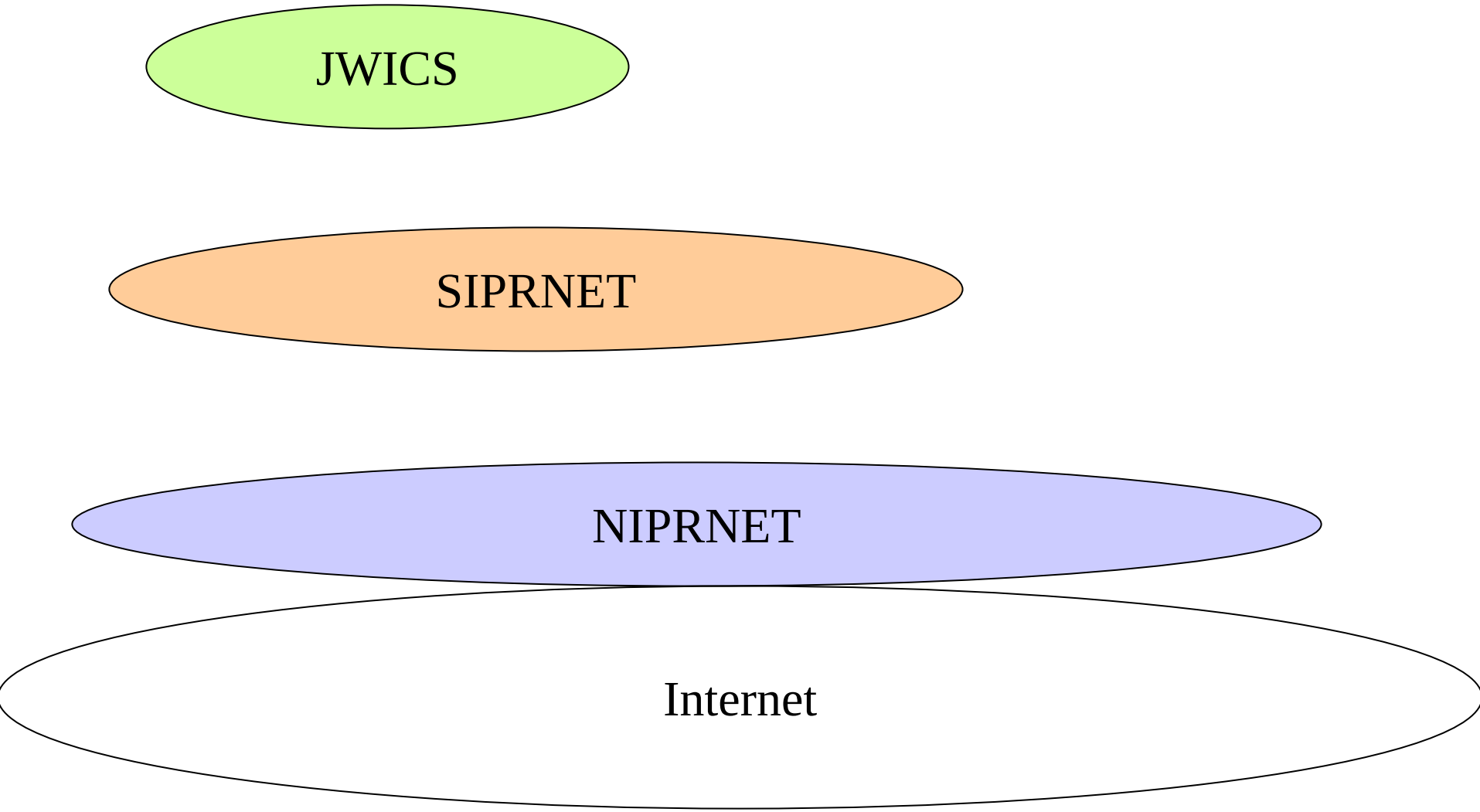
Big win:
(NSA/NIST/AF/DHS/DISA/Microsoft/OMB):
Federal Desktop Core Configuration

Security Content Automation Protocol
SCAP

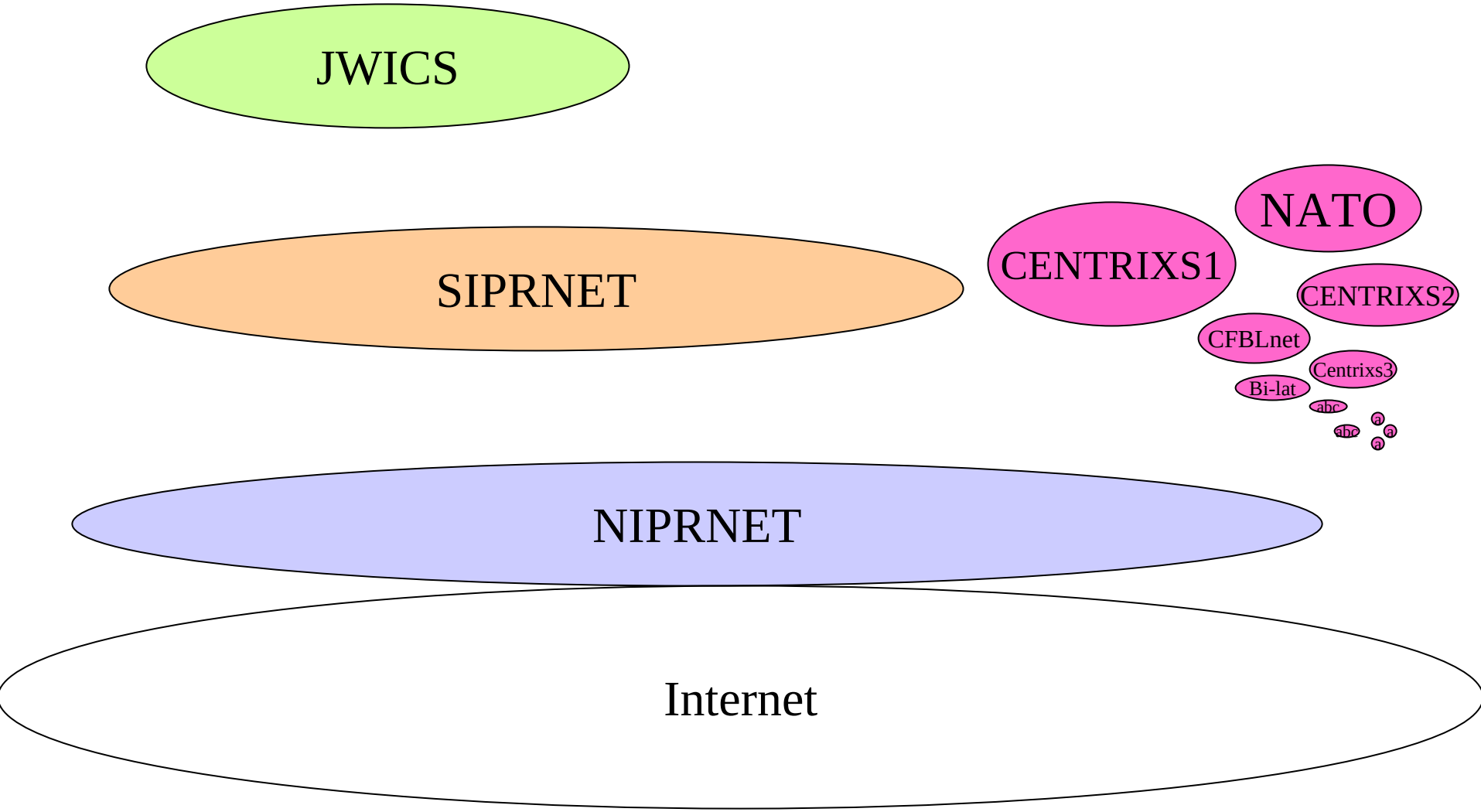
- **Name for family of cyber security data standards**
  - Configuration description
  - Configuration measurement
  - Vulnerability
  - Etc.
- **NIST in the lead in defining; many are used now**
- Goals is to **improve sharing and improve automation**
  - Ex. “STIG” content can be machine readable and consumed by any compliant tool
  - DoD can purchase automation tools from any vendor that complies

Information Sharing in the Federal Government

Or, ***What System-High Wrought***


JWICS
SIPRNET
NIPRNET
Internet

Sharing With Allies


JWICS
SIPRNET
NATO
CENTRIXS1
CENTRIXS2
CFBLnet
Centrixs3
Bi-lat
abc
abc
a
a
a
NIPRNET
Internet

Q. Does all of this stuff really require system-high separation?

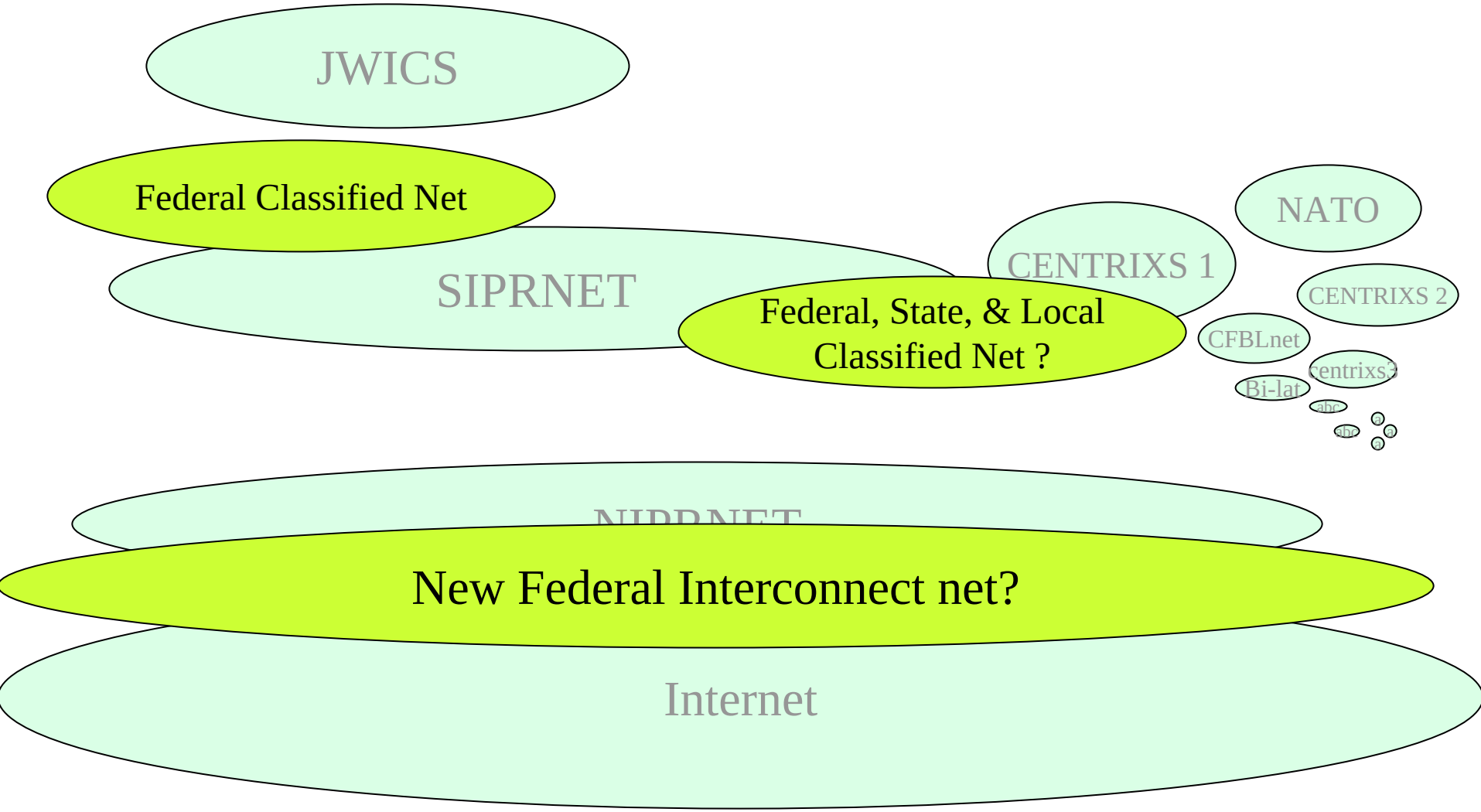
A. (My theory, although many others have concluded the same thing.)

Nope. Some of these networks can be treated as *separate communities within a single network infrastructure*

The CCER. The JCS & COCOMs & NII have asked DISA & NSA, to develop and deploy a method of consolidating several of the large CENTRIXS

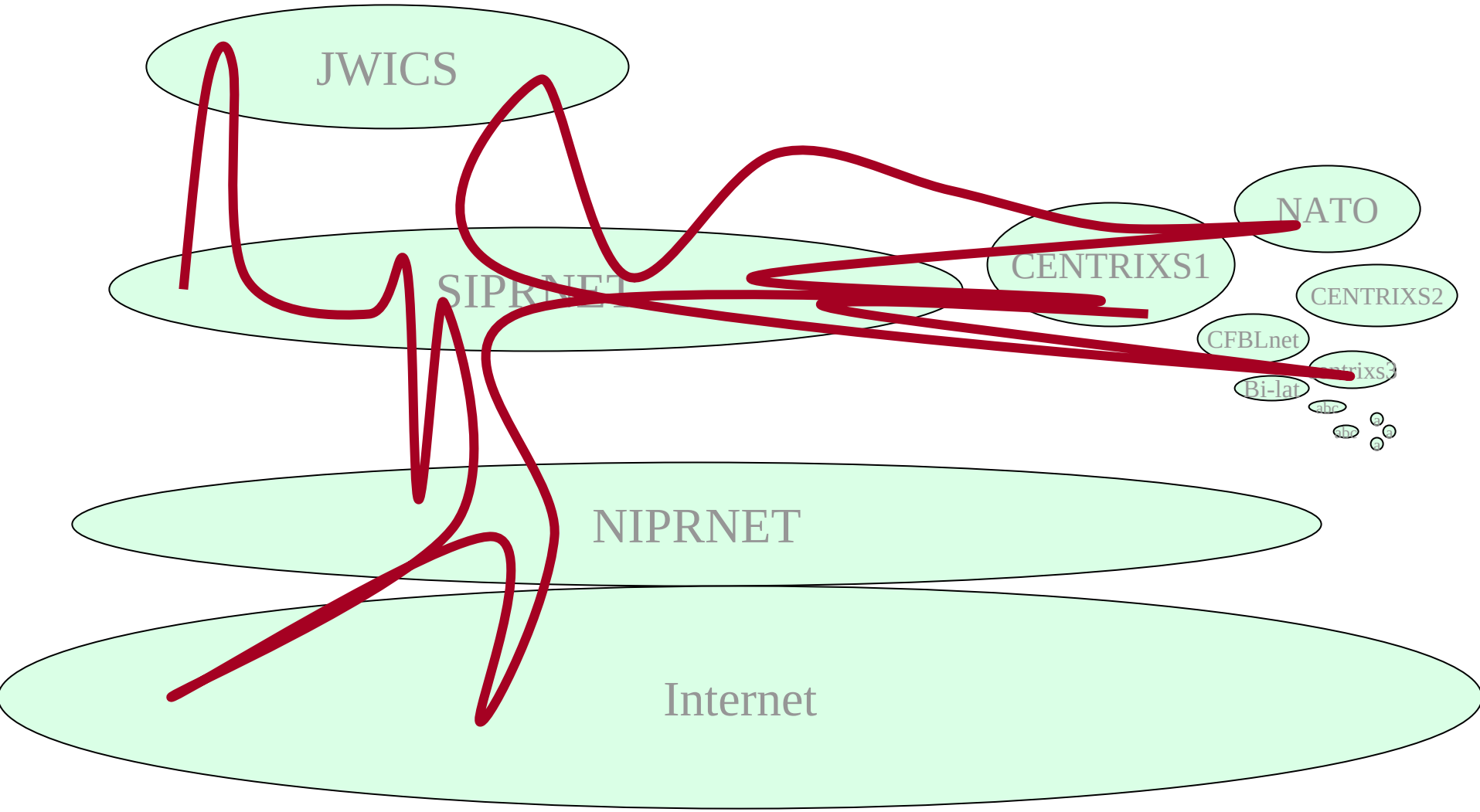
- **CENTRIXS cross enclave requirement (or CCER)**

Sharing in the Interagency


JWICS
Federal Classified Net
SIPRNET
NATO
CENTRIXS 1
CENTRIXS 2
Federal, State, & Local
Classified Net ?
CFBLnet
Bi-lat
New Federal Interconnect net?
Internet

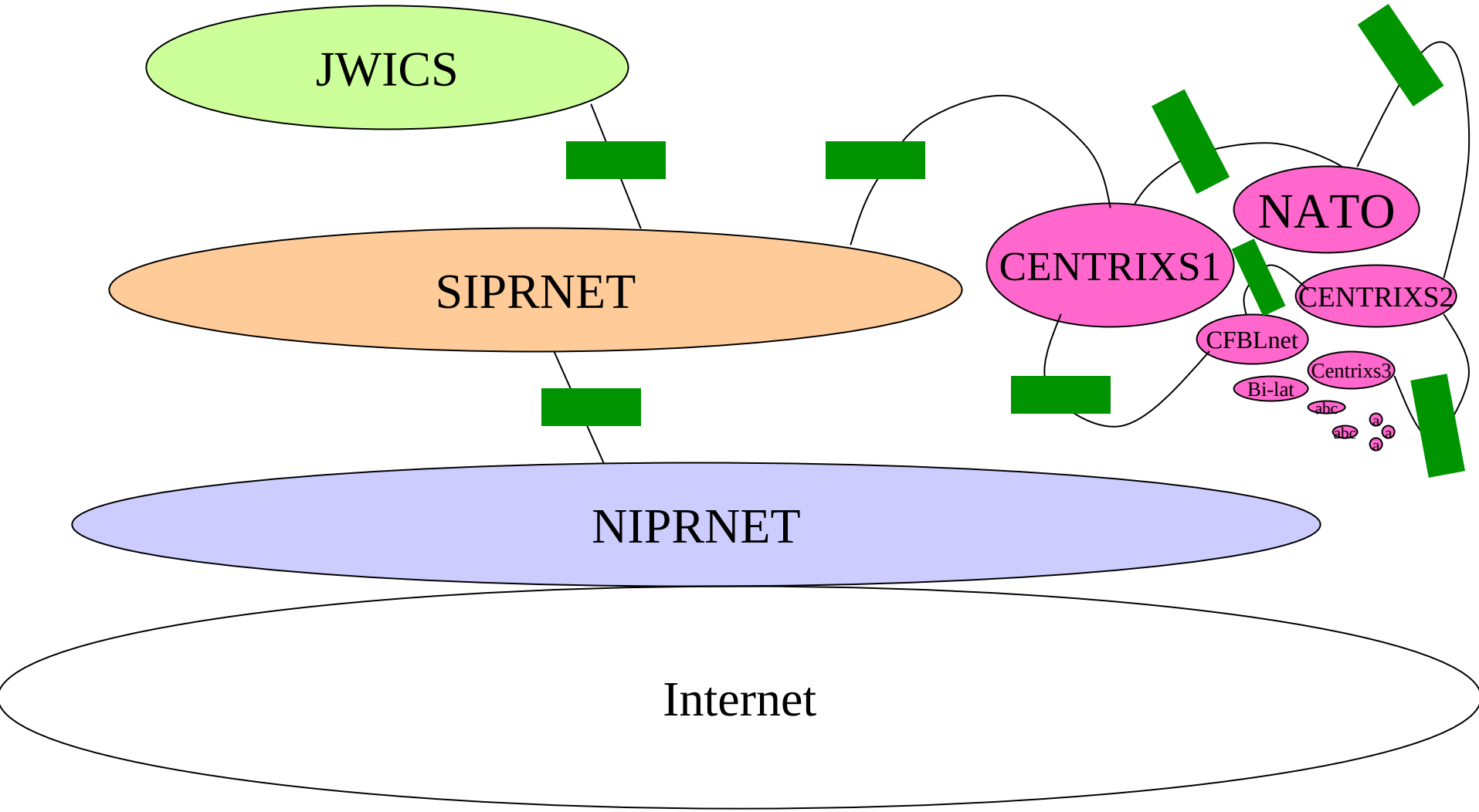
A Typical Netcentric Mission Thread

(or, sharing in spite of system high)


JWICS
SIPRNET
NATO
CENTRIXS1
CENTRIXS2
CFBLnet
Bi-lat
NIPRNET
Internet

How Exactly Does *That* Sharing Work?

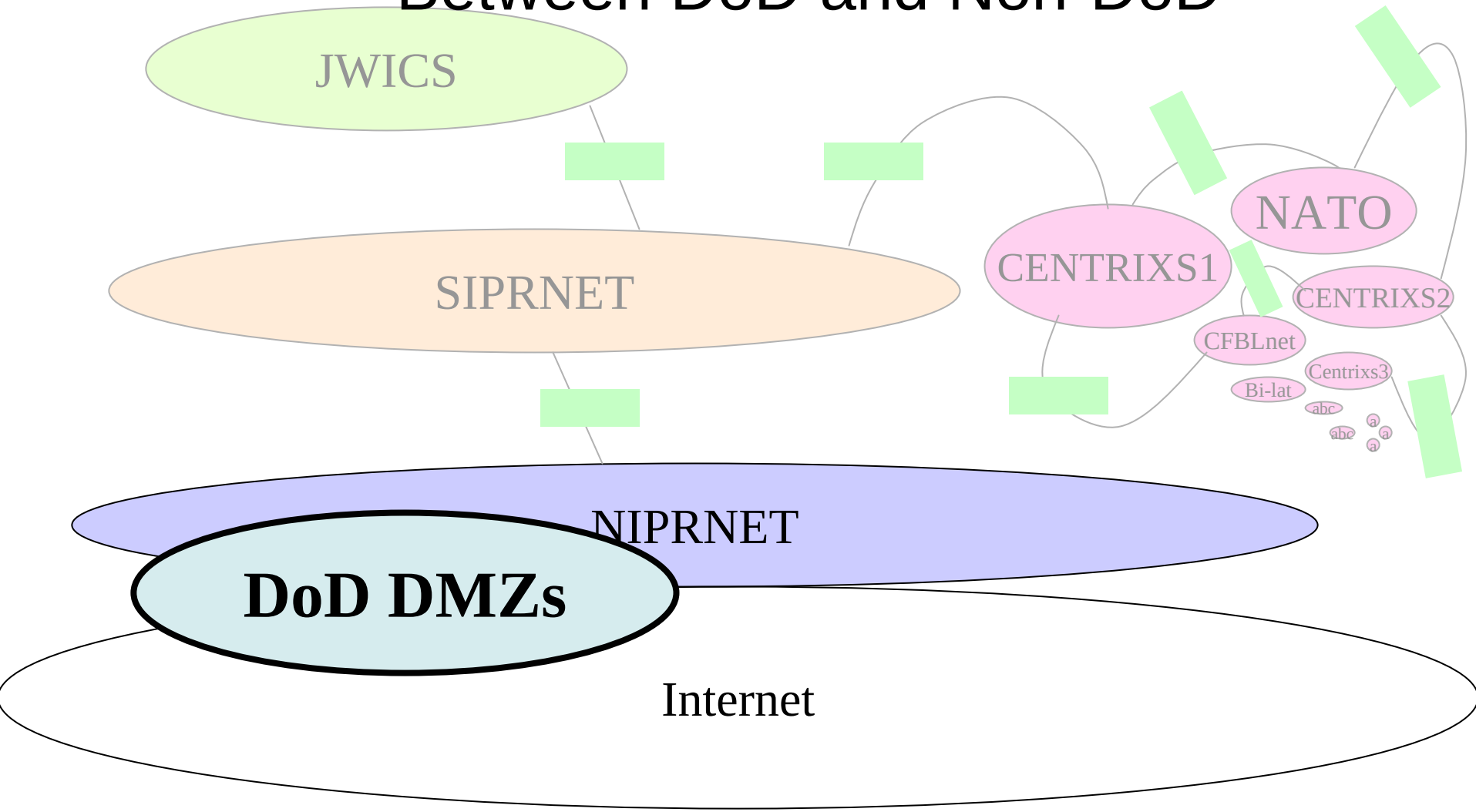
Sharing Part 1: That's What We Do With All That *Cross Domain* Stuff



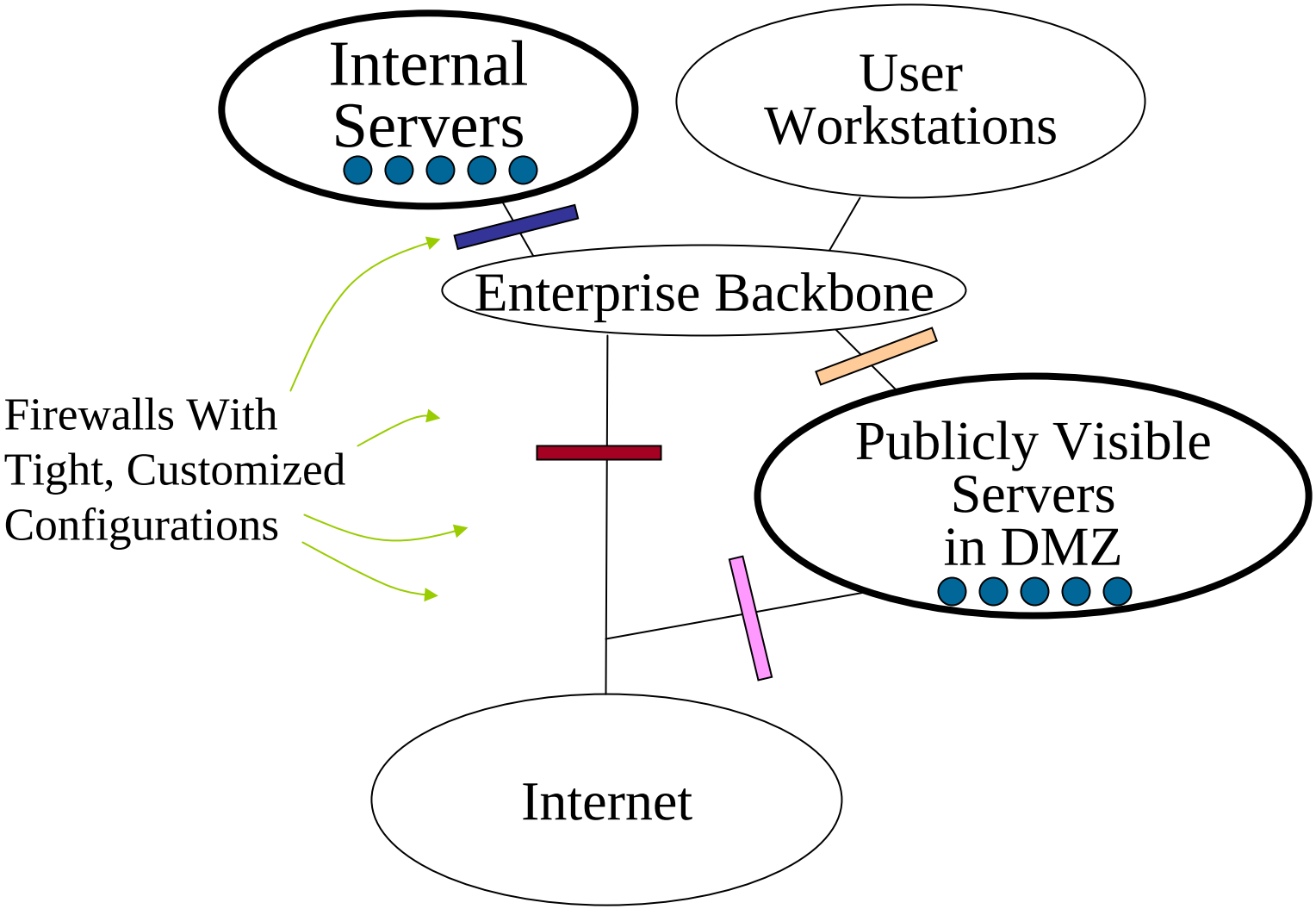
The Unified Cross Domain Management Office

- Intelligence Community and DoD effort to manage cross domain efforts
  - Approve standard products
  - Help customers find existing or modifiable technologies before developing more
  - Oversee the provision of *cross-domain as a network service*
  - Monitor technology development
  - Improve MLS certification and accreditation process
    - *As part of overall IC/DoD C&A re-engineering*

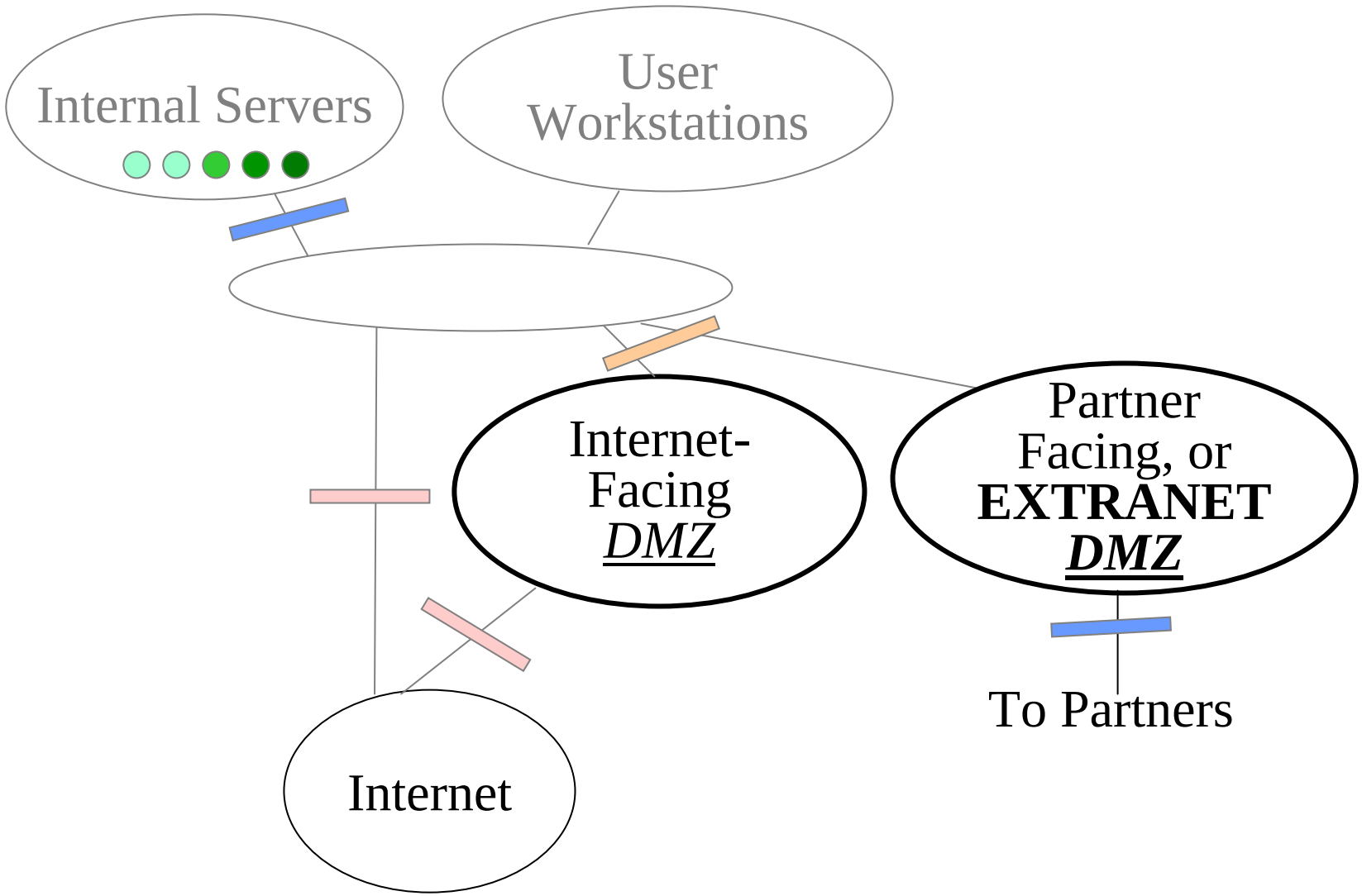
Sharing Part 2: Better DMZs Between DoD and Non-DoD



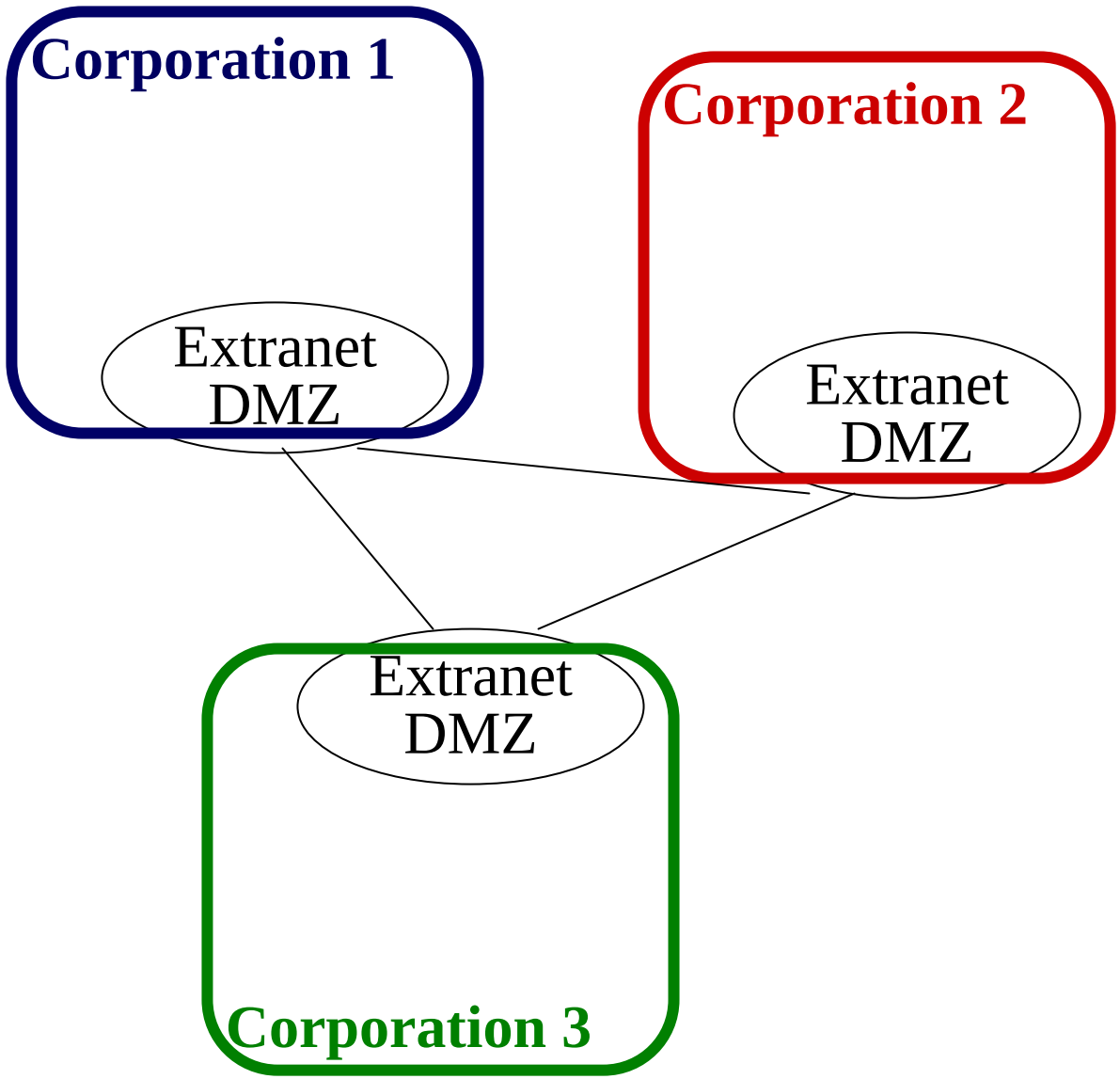
DoD DMZs


Internal Servers
User Workstations
Enterprise Backbone
Firewalls With Tight, Customized Configurations
Publicly Visible Servers in DMZ
Internet

Sometimes There Is A Separate DMZ For Close Partners

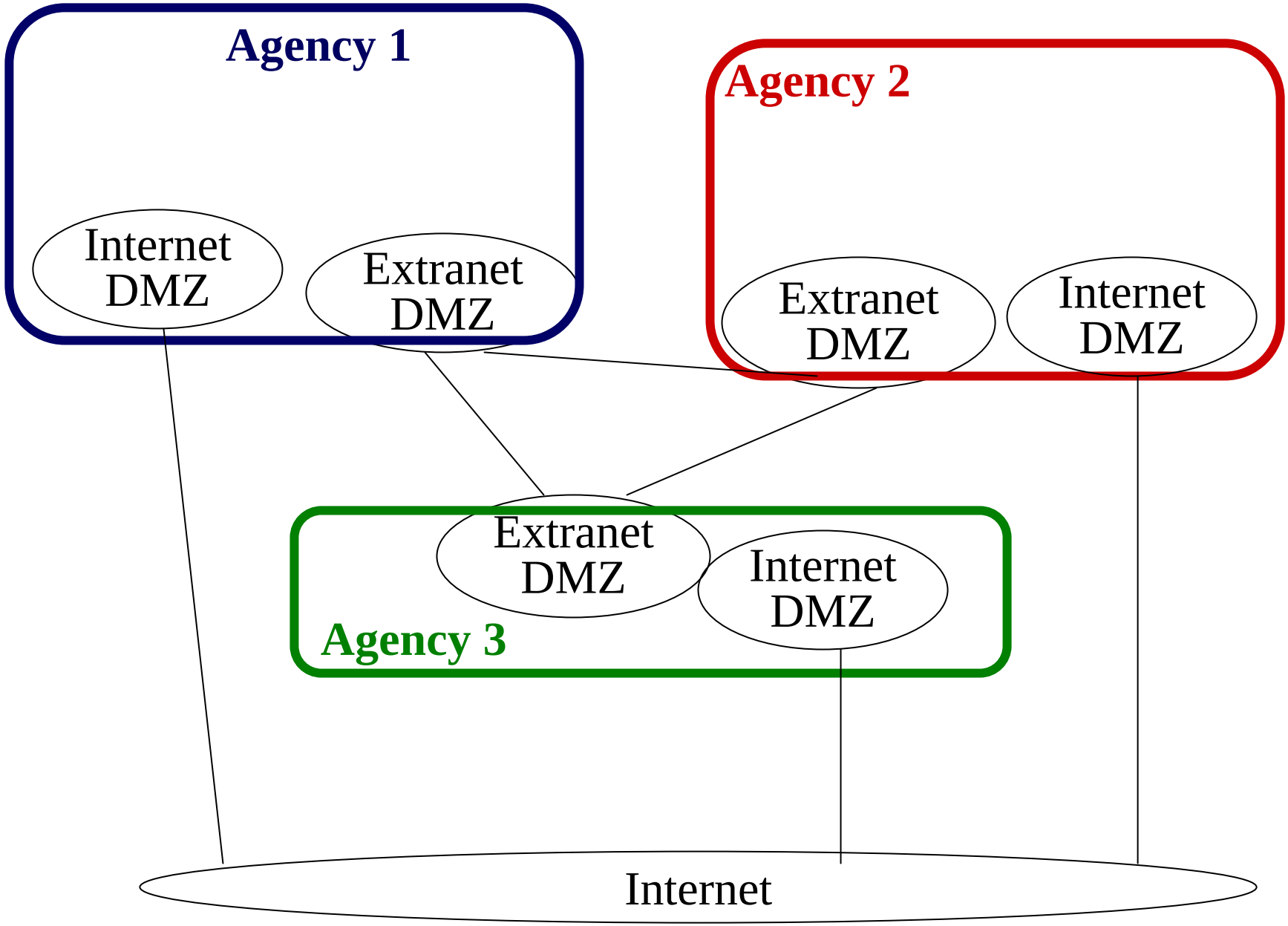


The Extranet DMZs May Be Attached to a Private Network, or *Extranet*



Unclassified Sharing in the Interagency?

One Result of the Trusted Internet Connection Initiative?


Agency 1
Internet DMZ
Extranet DMZ
Agency 2
Extranet DMZ
Internet DMZ
Extranet DMZ
Internet DMZ
Agency 3
Internet

Other TIC Thoughts Based on DoD Lessons

- DoD has evolved various connection approval, compliance assessment, enforcement, and exception processes
  - These will likely need to be replicated in the inter-agency
  - Compliance enforcement must have teeth
- Partners ALWAYS have internet connections so connect to them via partner/extranet DMZs and monitor these as you would an internet connection
- Clear lines of authority for management of the connections is essential
- Sharing the attack detection and diagnosis data from the connection points is essential

A Little Bit About Driving Out Anonymity:

PKI and Cyber Identity Credentials
(DoD PKI and Other PKIs)

First, a bit about Bad Guys and Directories

(and why we have Public Key *Infrastructures)*

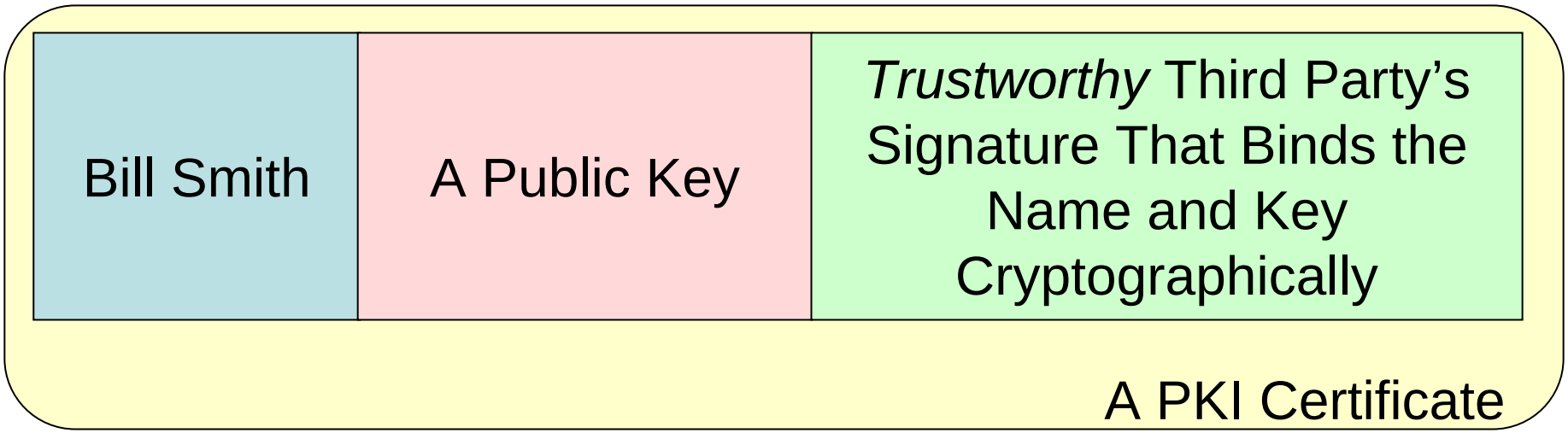
Publishing Public Keys: the old days

…One public key looks pretty much like any other

The Directory

Bill Smith	A Public Key
John Smith	A Public Key
Sam Smith	A Public Key

Publishing Public Keys: Now



Increased *assurance* that Bill's public key is really his, and not John's or Sam's

An Important Detail…

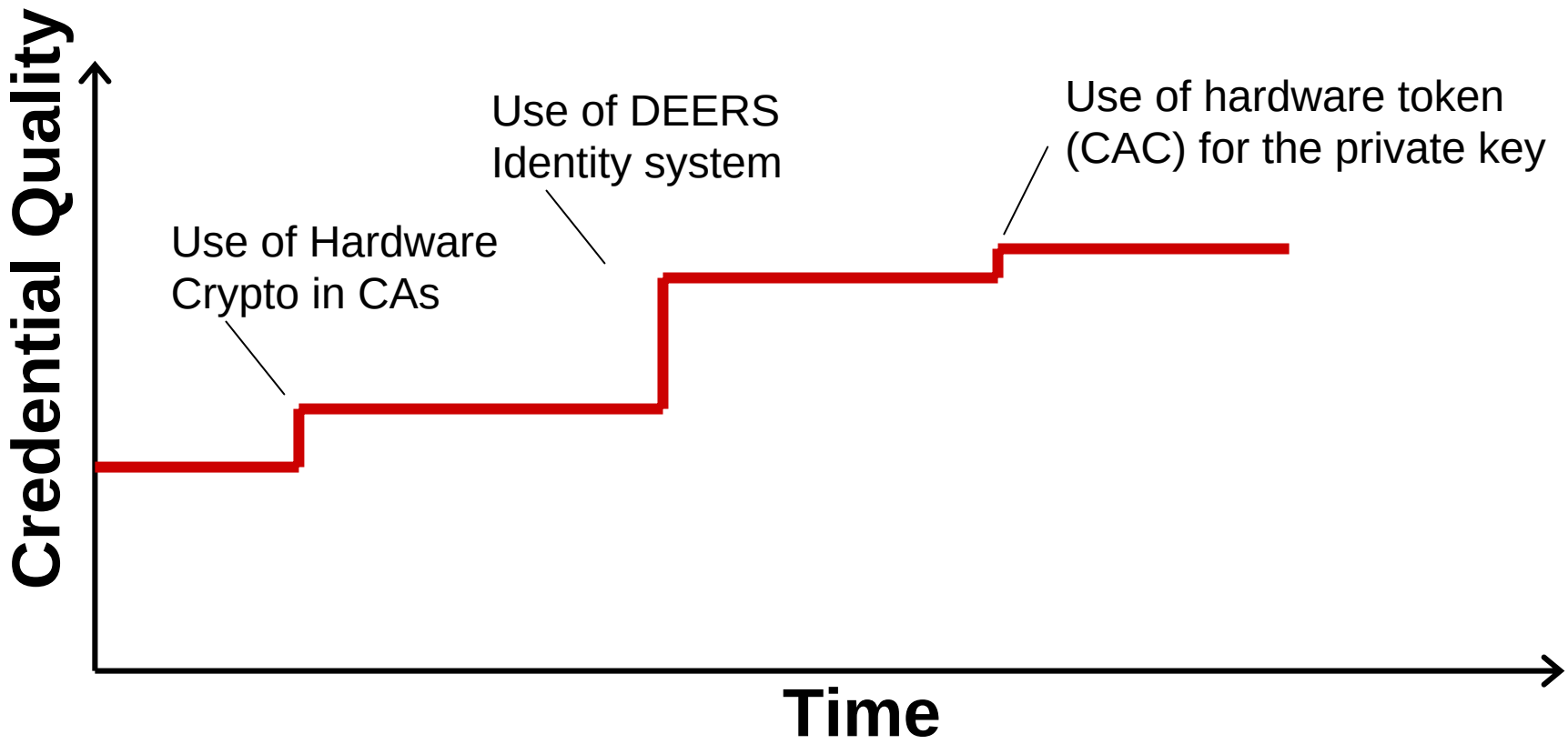
- Bill still needs to protect the other piece of the credential…the *private key*

The DoD PKI

- Primarily identity credentials for people (for now)
- Issuance tied to the pool of people identity in DoD…DEERS
- Single trust root, although credentials issued by many subordinate certificate authorities
- **Asserts very little other than the tie between a name and a public key**
  - **Must find those other tidbits about Richard Hale from other sources**
- Private keys (mostly) stored on the Common Access Card, or CAC
- Credential quality depends on many, many things…

DoD PKI Credential Quality

(How Much Can I Trust This Credential I've Been Presented?)



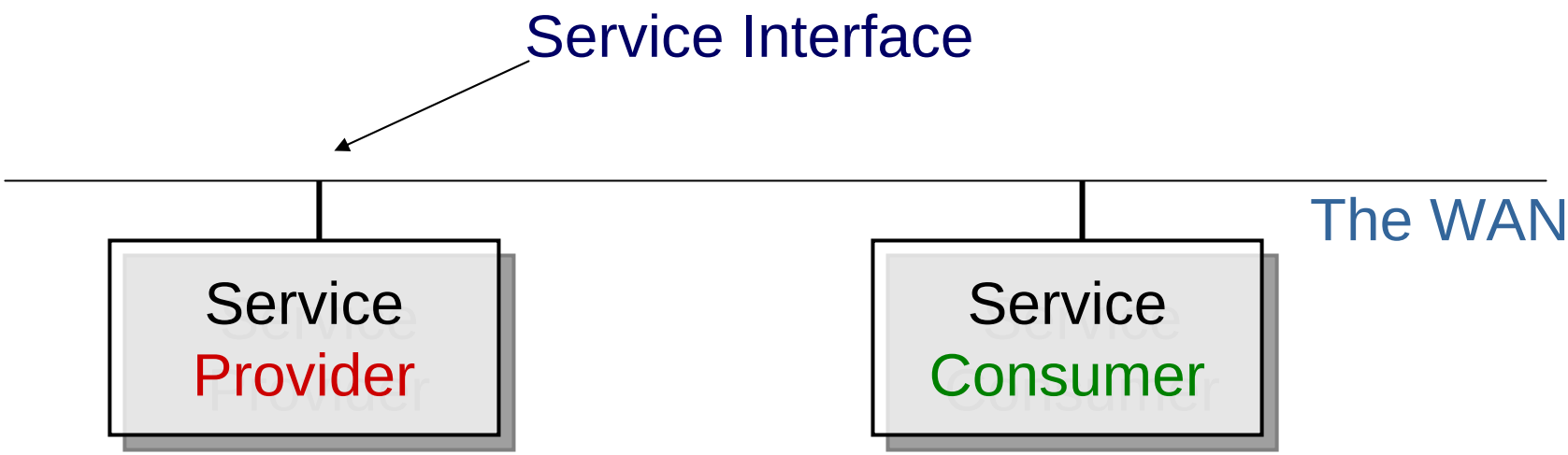
Lots of Assurance Increases in the Works for DoD & Other PKIs

- Improved cryptography (elliptic curve)
- Stronger protection of private keys, alternate tokens
- Better identity vetting of individuals before issuing a credential
- Stronger protocols between the certificate authority and the place the keys are generated
- More auditing
- Etc., etc., etc.

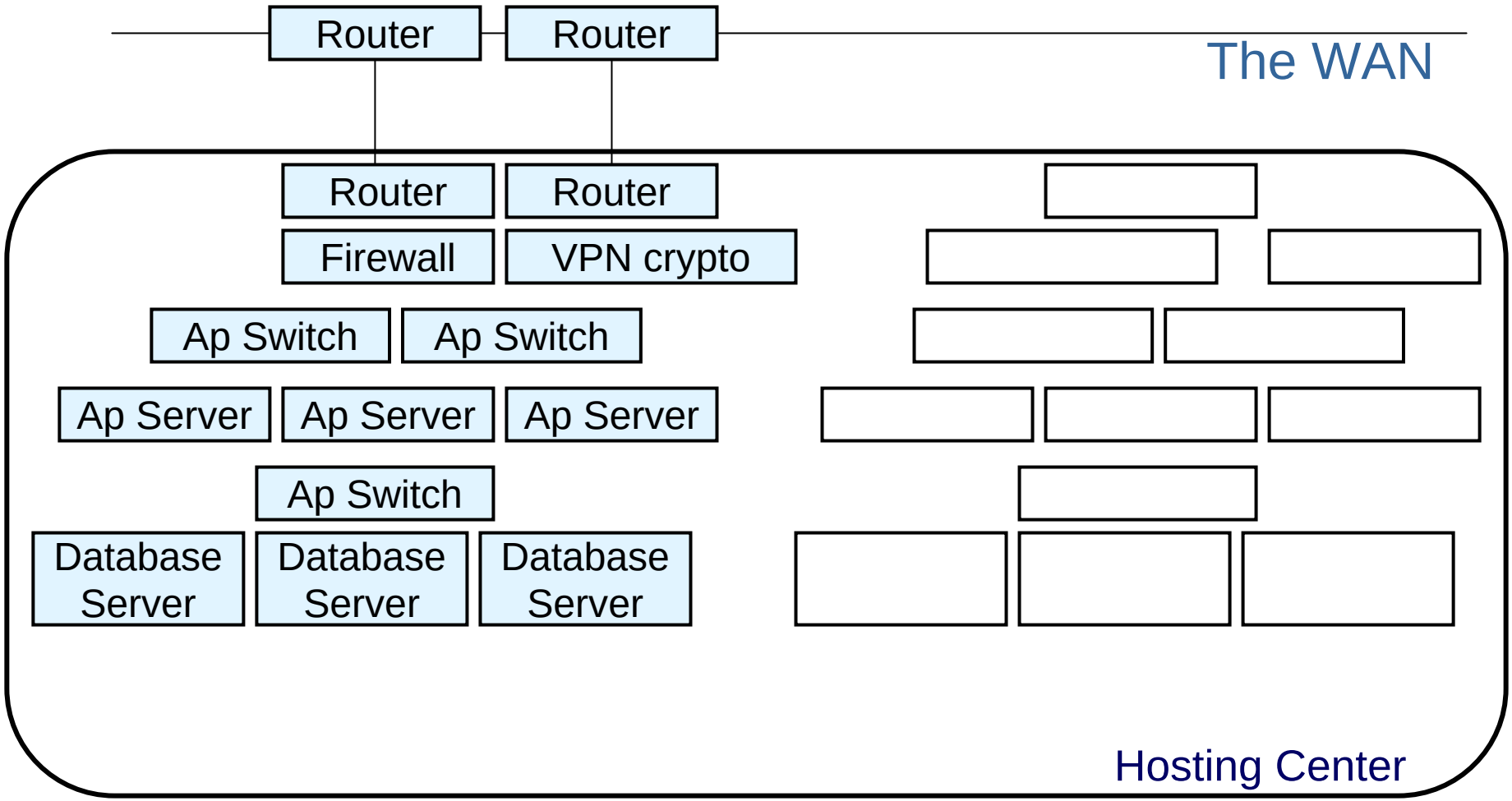
Sharing & Application Agility:
The Service Oriented Architecture

(We'll come back to my cyber identity credential, and some of its uses)

The Simple View of the SOA



What's Behind the Service Interface?



Dependable SOA Poses a Question

- **Each service consumer *relies* on some sort of statement by the service provider on the service being consumed**
- **Provider asserts things like**
  - Reliability of the service (in the face of equipment failure, circuit failure, natural disaster, cyber attack, whatever)
  - Accuracy of information
  - Performance, etc.

How does the consumer know whether to believe the claims?

Answers?

- Traditionally, a contract between supplier and consumer defines the terms of service
- In DoD and the IC, this isn't exactly how we work
- But, we could invent a scheme of point-to-point MOAs. But, this doesn't scale, even if we could figure out enforcement
- But, important missions, people's lives, and all sorts of things may depend on the service

So, I think *a third party* must verify the service providers' claim, then publish the findings

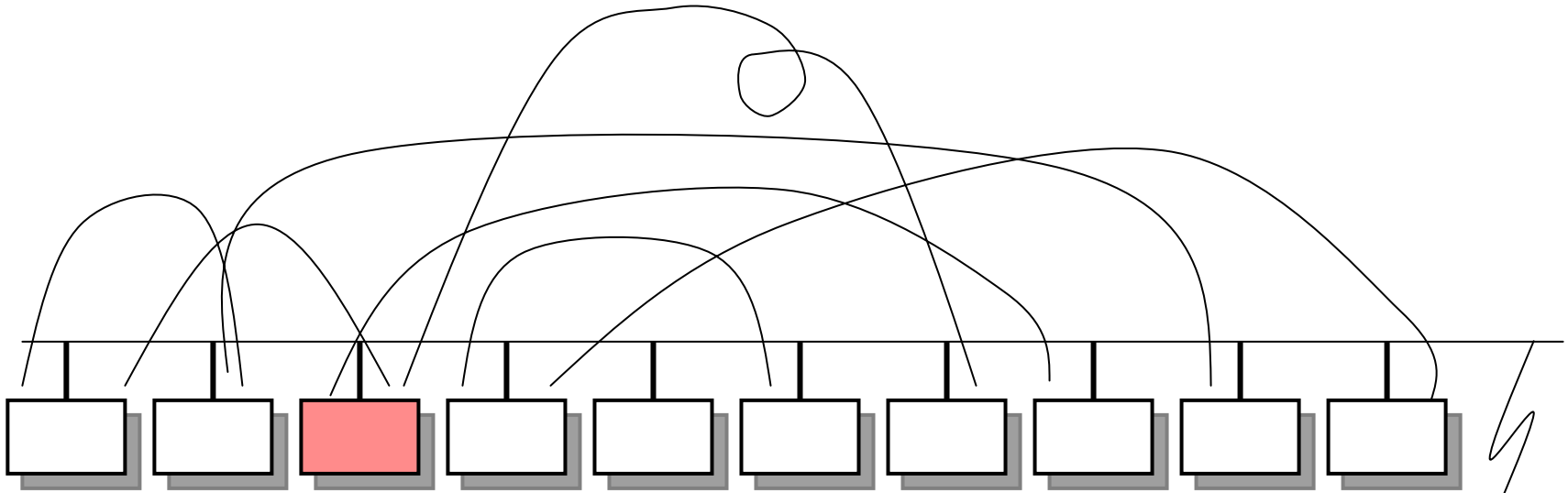
- **(a Certifier, a Tester?)**

Who Spot Checks These Claims?

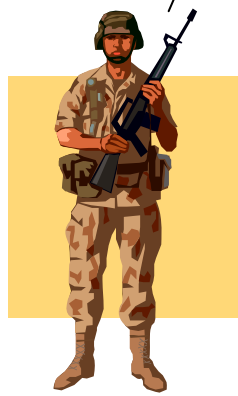
- To ensure the service provider is continuing to satisfy the claims on which our consumer is depending
- Certifier?
- Tester?
- Blue Team? (Acting on behalf of both the consumer *and* the provider?)

Isn’t This a Lot of Trouble Over Something That’s Not That Hard?

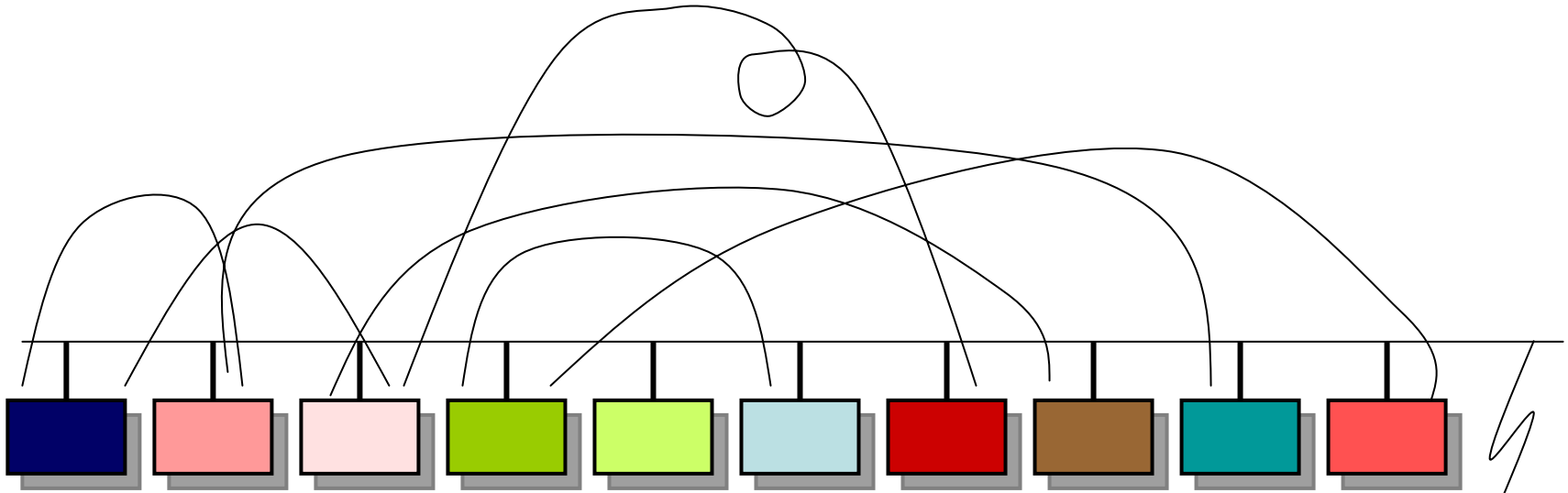
Composition of Services into an Application



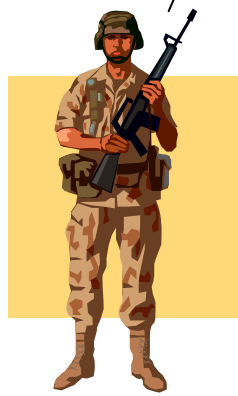
Our service is a participant in a composed application serving a soldier in the field



Many Service Providers



“Dependability in the Face of Cyber Attack”



Back to Sharing While Keeping a Secret

If We Have Thousands of Services, Can an Access-Control-List Access Model Work?

Enter … ***Attribute-Based Access Control***

- Important in the SOA going forward
  - Scale
  - Policy flexibility (*share information with unanticipated person without having to give the person an account*)

Before:

Allowing me to access information,
Allowing me to act in a certain role,
Doing business with me, etc.

Step 1. **Determine that it's *really* me**

Step 2. **Then, *learn things about* the real me**
before deciding to take a risk on me

Step 1: I present my PKI credential and use my private key to authenticate.

Then, all that stuff *about* me comes into play

Who Knows, Who Tells the Things About Me?

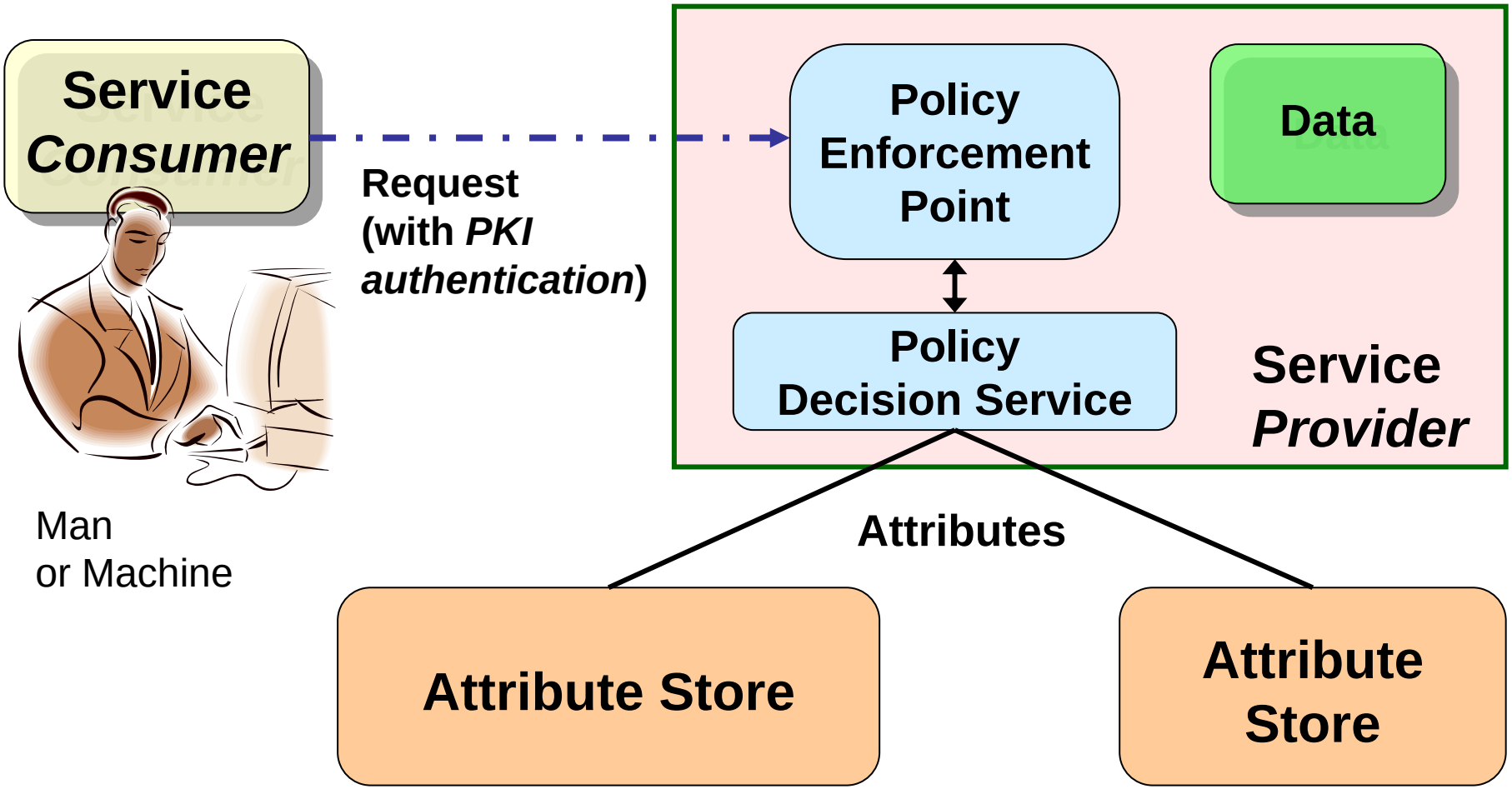
I Do

But if you don't know me, will you *trust* what I say?

Others Do

You *might* trust some of what *others* say about me (attributes about me)

Attribute-Based Access Control



Are Those Attributes Worthy of The Service Provider's Trust?

Attributes and the Directory Problem

- Tight tie between me and my public key provided by my PKI cert (and by careful design of the issuance process)
- **Where's the tight tie between me (my name or some other unique identifier) and an attribute about me?**
- **Who is authoritative** for particular information about me?

How does a relying party know that my credit score, my clearance, my role, my grades, are really mine?

Incident & Attack Detection, Diagnosis, and Reaction

The Computer Network Defense Process

- **Detect** the incident or attack or problem (hopefully before it's launched)
- **Diagnose** what's going on
- **Develop militarily useful courses of action**
- **Pick** one
- **Execute** it
- Then **follow up**

All in militarily useful time

Realistic NETOPS Tactics, Techniques, Strategies

- This may (at any time) be a war fight
- Development of effective NETOPS war fighting tactics, etc. must be done by considering realistic adversaries
- Then we must *practice* these (and practice, practice, practice these)
- Practice at all levels of organizations, from individuals to small groups to ops centers to multiple ops centers…
  - You get the idea

This Also Requires Broad Sharing

- Sharing of raw sensor data, partial incident data, and more fully analyzed incidents is also critical
  - If we're to do this fast, and broadly across government and industry
  - **So, IMHO we've got to set standards for protecting this stuff so we're all willing to share…**

DoD Sets Standards and Accredits Computer Network Defense Service Providers

- The Interagency, industry, others will likely have to do this too

To Summarize…

1. Dependability in the Face of Cyber Attack

2. Keeping a Secret

Both While Simultaneously Sharing Information Broadly

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iase.disa.mil

DEFENSE INDUSTRIAL BASE, SECTOR COORDINATING COUNCIL

DEFENSE INDUSTRIAL BASE SECTOR COORDINATING COUNCIL

Improving the Sharing and Reliability of Public and Private Threat and Hazard Information

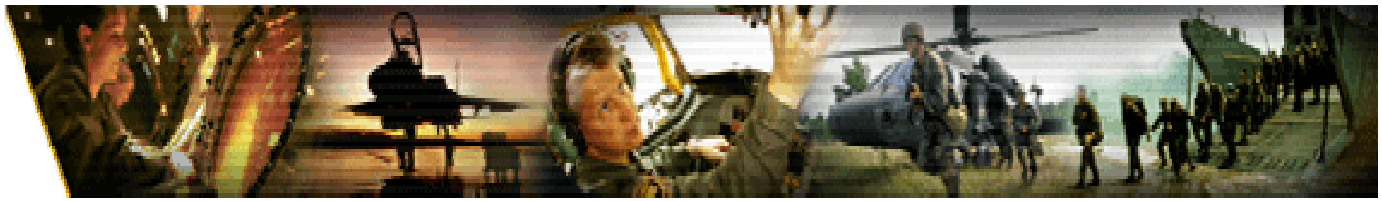
April 9, 2008

DEFENSE INDUSTRIAL BASE, SECTOR COORDINATING COUNCIL

Panel Objectives/Takeaways

- Objectives
  - Exchange information
  - Discuss gaps and opportunities for better provision/utilization of global threat and natural disaster intelligence
  - Explore case studies, best practices, and successful strategies for combating and understanding the insider threat
  - Identify opportunities for public/private intelligence sharing partnerships
- Takeaways
  - Information sharing, integration mechanisms, and how they enhance rapid response

DEFENSE INDUSTRIAL BASE, SECTOR COORDINATING COUNCIL



NIPP Implementation Actions

"The effective implementation of the NIPP is predicated on active participation by government and private sector security partners in robust multi-directional information sharing. When owners and operators are provided with a comprehensive picture of threats or hazards to CI/KR and participate in ongoing multi-directional information flow, their ability to assess risks, make prudent security investments, and take protective actions is substantially enhanced."

NIPP implementation will rely greatly on critical infrastructure information provided by the private sector. Much of this is sensitive business or security information that could cause serious damage to companies, the economy, and public safety or security through unauthorized disclosure or access to this information

DEFENSE INDUSTRIAL BASE, SECTOR COORDINATING COUNCIL

Improving Information Sharing

- Numerous models of mechanisms that work …
  - Google “Info Sharing” 20,400,000 hits
  - Google “Trust Models” 2,730,000 hits
- Implies “no ideal”
  - Contemporaneous venues with similar objectives are okay
  - Helps bridge blockers
  - Cues parties to desired common solution
  - Enriches information streams
  - Builds relationship opportunities
    - Dialogue between DIB and DoD
- Gaps
  - Includes policy, classification, communication system issues
  - Issues enhance or impede key “lubricants”
    - Trust, confidence, shared equity

Business Structure

- DIB companies have grown to large entities through the acquisition process
- Many unknowns come into play
  - Policy differences
  - Cultures
  - Vetting procedures
  - Foreign connections
  - Organizational control

CI Strategy for Business

- Companies must realize they have a real threat present
- Senior Management must support the CI effort or it will not work
- Awareness of the workforce is key to success
- Have a CI program in place with trained personnel to manage it

Government Interface with the DIB

- Not all companies are managed the same in regards to security
  - Legal Department
  - Human Resources Department
  - Operational Management
- Be aware all have their own equities to protect

Government Interface

- Important to establish key relationships early
- Ensure “hand-offs” are handled appropriately
- Attempt to limit the amount of agents dealing with a particular firm, i.e., cyber, humint, etc.
- If possible, manage interface through the senior security official
- Offer various support assistance to firm

Issues remaining

- Lack of collection capabilities
- Lack of efficient means of secure data access and dissemination
- Training, investigative resources
- Duplications of efforts (multi-agency overlap)

DEFENSE INDUSTRIAL BASE, SECTOR COORDINATING COUNCIL

Cyber Issue

- #1 issue facing industry
- Lack of convergence between security and IT functions exist in some companies
- Being treated as an “Information Assurance” issue, not as an “Intelligence” issue
- No real solutions being developed to halt threat as long as firms continue to operate and store data connected to the internet

SUPPLY CHAIN PREPAREDNESS AND RESPONSE MANAGEMENT

Defense Industrial Base – Critical Infrastructure Protection Conference

8 April 2008

John F. Rank
Vice President, Supply Chain Management
General Dynamics Land Systems, and
Chair, General Dynamics
Supply Chain Management Council

A CAUSE FOR ACTION…

- **U.S. Government Mantra & Policy**
- **An Industrial Base Perspective**
- **What Can and Should Supply Chain Management be Doing?**

A CAUSE FOR ACTION

- **Homeland Security Presidential Directive 7**
  - Policy
    - **Enhance protection of critical infrastructure** and all key resources to assure no negative affect or cascading disruption
    - **Protect transportation** systems
    - **Secure IT** systems (Cyberspace)
    - **Department of Defense** (DoD) designated to cover Defense Industrial Base Infrastructure

A CAUSE FOR ACTION

- **Coordination with Private Sector**
  - **Collaborate and Support Private Sector** Coordinating Mechanisms
  - **Prioritize** the Protection of Critical Infrastructure and Key Resources
  - **Facilitate Information Sharing**

U.S. Government Agencies and Industrial Base are Partnering on Preparedness and Response

A CAUSE FOR ACTION

- **Homeland Security Presidential Directive – 8**
  - "This directive establishes policies to strengthen the preparedness of the United States to **prevent and respond** to threatened or actual **domestic terrorist attacks, major disasters, and other emergencies…**"

A CAUSE FOR ACTION

- **Defense Industrial Base (DIB) Sector–Specific Plan (SSP)**
  - Guidance Developed by **Collaboration of Industry and U.S. Government** Security Partners
  - Plan covers:
    - Goals
    - Identification of Assets
    - Assessment of Risk and Risk Management
    - Asset Prioritization Model (APM) which includes (16) factors classified into: (5) Mission, (5) Threat, (4) Economic, and (2) "Other"
    - Development of Protective Systems
    - Measurements on Progress/Goals
    - Research and Development
    - Management and coordination of the Sector Specific Agency (SSA)

A CAUSE FOR ACTION

We Cannot be Complacent

- **Al-Qaeda has a 20 Year Plan**
  - ↗ Total Confrontation by 2016
  - ↗ Definitive Victory by 2020
    - Will focus on “Critical” Infrastructure
- **Goal Should be to Make the U.S. Industrial Base Strive to Make Nothing Critical**
- **A “Sense of Urgency When There is no Emergency”**

An Industrial Base Perspective

General Dynamics and it's Supply Chain Challenges

Industrial Base Perspective

General Dynamics Corporation

Corporate Overview

Business Segments

Combat Systems

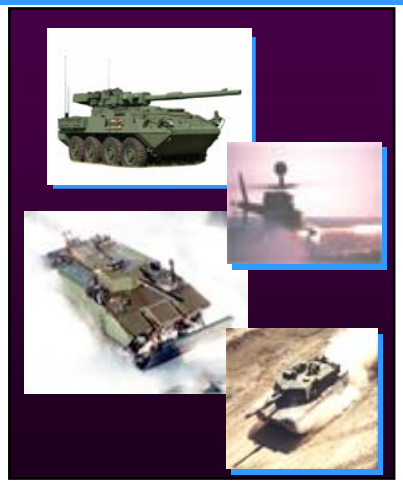
Land Systems

General Dynamics Corporation

Nick Chabraja
Chairman & CEO

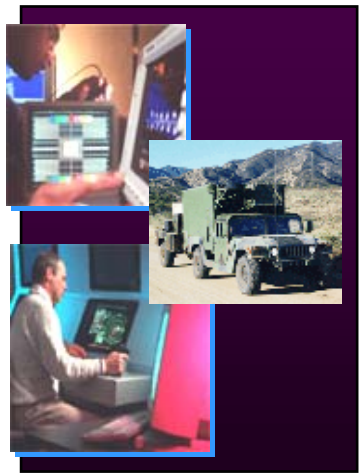
- Revenues: $27 Billion
- Employees: 82,500

Charlie Hall
Executive VP
Combat Systems

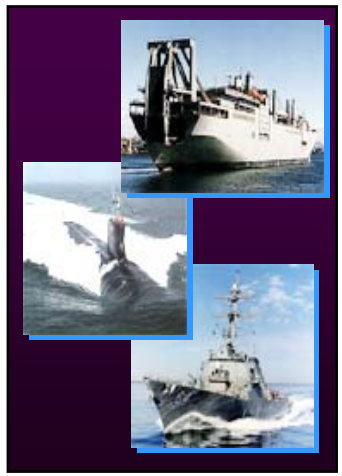


Combat Systems

Jerry DeMuro
Executive VP
IS & T



Mike Toner
Executive VP
Marine



Joe Lombardo
Executive VP
Aerospace

Information Systems & Technology

Marine

Gulfstream

Combat Systems

Land Systems

Armament and Technical Products

Ordnance and Tactical Systems

MOWAG

Steyr

Santa Barbara Sistemas

European Land Systems

GD Land Systems (GDLS)
Full Spectrum Product Offering

Warrior

Robotics

JLTV

LAV / Stryker

FCS

EFV

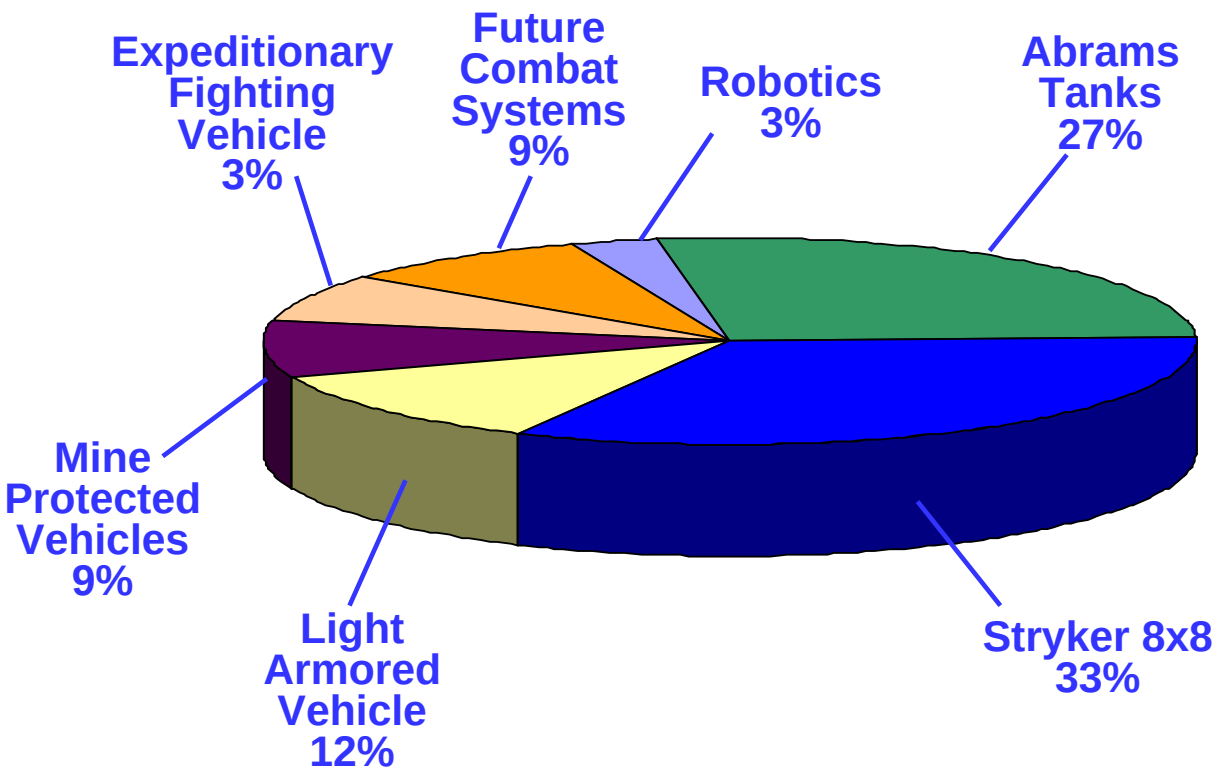
MRAP

Abrams MBT

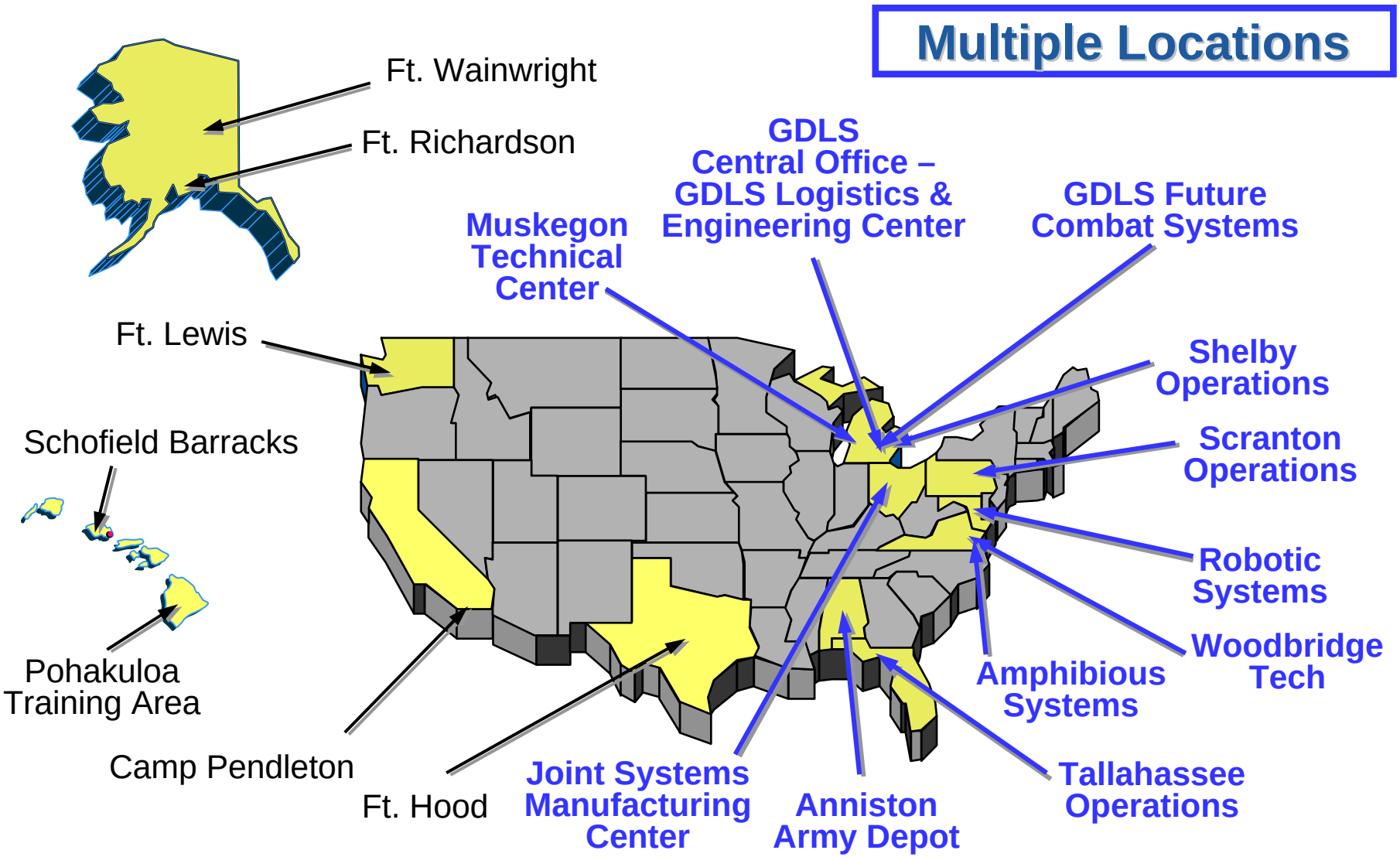
CY2007 Overview

- Combat Vehicles and Subsystems
- Global Business Base
- 9,100 Employees
- ISO “9001-2000” Registered
- SEI Level V Certified

Multiple Products & Multiple Customers



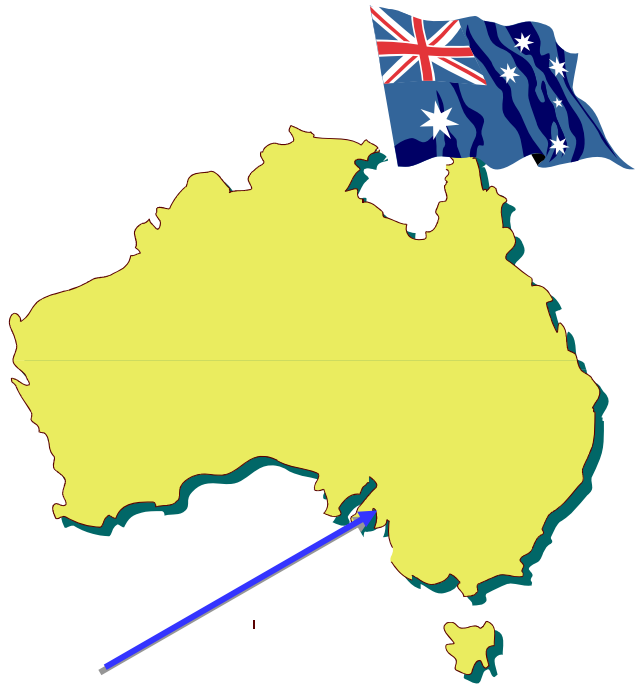
U.S. Locations



International Locations

Edmonton, Alberta

GDLS - Canada
London, Ontario



GDLS - Australia
Adelaide, Australia

Supplier Base

Land Systems - Supply Chain Exposure

- **> 60% of Sales Revenue is Through Purchased Products & Services**
- **Over 3600 Suppliers**
- **180 Critical Suppliers**
- **250 Offshore Suppliers**
- **2007 Spend was $2.2B**

Industrial Base

- **Critical Subsystems & Commodities**
  - Mills for Raw Material
  - Heavy Fabrications
  - Mission Equipment; Fire Control, Electro-Optical
  - CLS Support Structure; Repair and Overhaul, Spares
  - Survivability and Armament
  - Subsystem Assemblies

U.S. DEFENSE PRODUCTS CONTAIN MANY SUBSYSTEMS WHICH ARE CUSTOM DESIGNED AND UNIQUE

GDLS Partnerships on Major U.S. Platforms

PROGRAM	MULTIPLE INDUSTRY PARTNERS
Future Combat Systems (FCS)	BAE
Abrams and Bradley Modernization	BAE
Mine Resistant Ambush Protected (MRAP)	Force Protection (Force Dynamics)
Joint Light Tactical Vehicle (JLTV)	AM General (General Tactical Vehicles)

SHARED PROCUREMENT RESPONSIBILITIES

Threats to the Infrastructure

THREATS TO THE DEFENSE SUPPLY CHAIN INFRASTRUCTURE

A BROAD PERSPECTIVE

WHAT CAN AND SHOULD WE BE DOING?

Theme for Supply Chain Management Portion of the Conference:

"Threats to the supply chain, programs and action to mitigate security and continuity challenges, and approaches to foster supply chain response."

SUPPLY CHAIN INFRASTRUCTURE

Affect on Business if Disruption or Security Breach

- **Loss of Customer Confidence**
  - ↗ Company Image
- **More U.S. Government Oversight**
- **Loss of Revenue**
- **Legal Issues**

SUPPLY CHAIN INFRASTRUCTURE

What are the threats:

- **Terrorists / Activists**
  - Acts
  - Ownership of Suppliers
- **Acts of War**
- **Disasters**
  - Tornados, hurricanes, floods, wild fires, earthquakes
  - Industrial Fires
  - Blackouts
  - Environmental

SUPPLY CHAIN INFRASTRUCTURE

- **IT/Cyberspace/Telecommunications**
  - Disruptions
  - Infiltration
- **Work Stoppages**
  - Sabotage
- **Financial Stability**
- **Customs (Foreign & Domestic) and Border Issues**
- **Political Instability**
- **Civil Disturbance**

SUPPLY CHAIN INFRASTRUCTURE

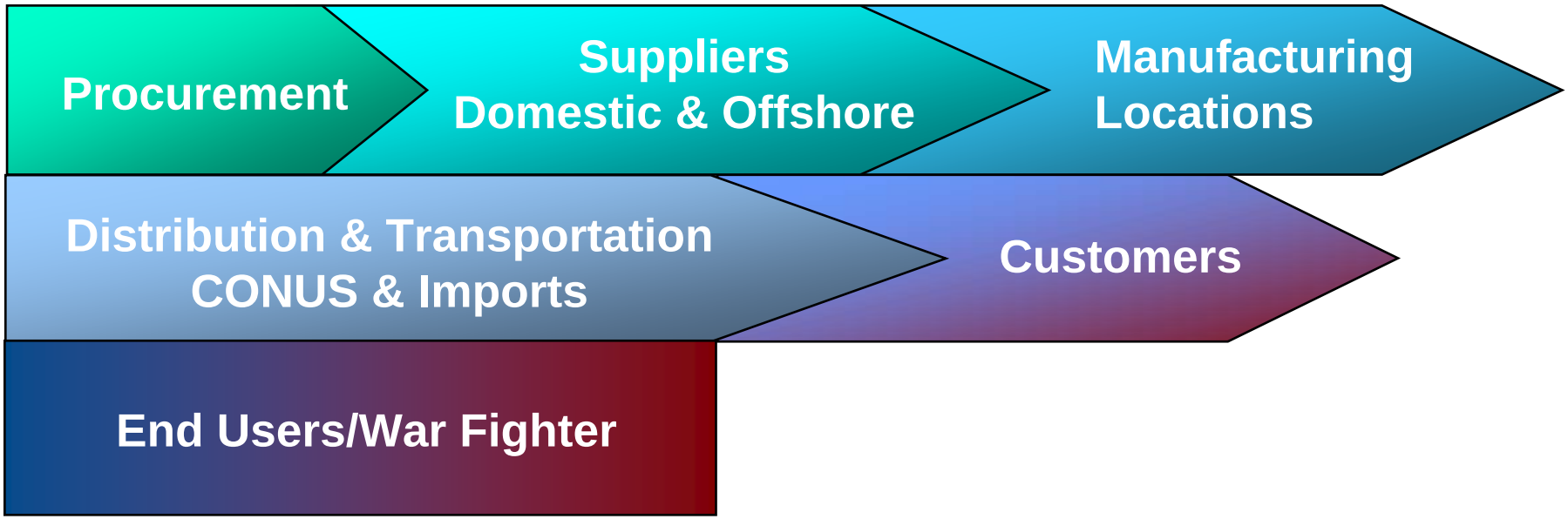
Global Procurement Adds Another Dimension to Control and Protection

- **Import Control**
- **U.S. Government Agency Infrastructure and Support is Limited**
- **Legal Action and Enforcement of Contracts and Purchase Orders**
- **Political and Civil Unrest**

What Can and Should Supply Chain Management (SCM) be Doing?

What Should SCM Do?

Recognize the Broad Spectrum of the Supply Chain that can be Affected



What Should SCM Do?

- **Recognize That the Supply Chain is Interconnected:**
  - There are Multiple Exchanges Along the Continuum
  - If One Piece of the Supply Chain Link is Harmed or Fails, There can be a Major Impact
  - Trying to Protect the Entire Supply Chain may be Impractical or Impossible
    - However, the Threats and Need for Protection cannot be Ignored

What Should SCM Do?

- **Recognize There is a Cost**
  - The Cost of Supply Chain Security is Anticipated to Exceed $151B, Annually *
  - Cost of Prevention Versus the Risk of Loss is a Difficult Balance
    - Is There A Return On Invested Capital (ROIC)?

*** "Five Tenants of Security – Aware Logistics and Supply Chain Operations", by Dawn M. Russell and John Saladana in Transportation Journal**

What Should SCM Do?

What Can We do to Protect the Supply Chain and Make it More Resilient?

What Should SCM Do?

Protection and Resiliency

- **Catastrophic Risk Management should be an Element of Business Strategy**
- **Flexibility and Redundancy must be Added to the Supply Chain in Order to be Proactive When Disaster Strikes**
  - ↗ Cost Issue
- **Security and Planning are Key**

What Should SCM Do?

- **Preparedness Should be a Way of Thinking**
  - ↗ Requires Adoption of a **Security-Minded Culture**
- **Program Training, Awareness, and Maintenance are Essential for Execution**
  - ↗ Must Flow Down
- **A FORMAL PLAN is Needed**
  - ↗ How to Protect Resources
  - ↗ How to Recover Quickly
- **A Common Guideline or International Standard Needed?**

What Should SCM Do?

Anticipate and Assess Risk Levels:

- **With Suppliers**
  - ↗ Alternate Sources
- **Transportation Modes**
- **Warehousing**
- **Availability of Alternate Work Sites**
- **Threat to Intellectual Property**
- **Allocation of Resources**
  - ↗ Can They Work Remotely?

What Should SCM Do?

- **IT Solutions**
  - Data Back Up
  - Manual Approach
    - Electronic Purchase Orders
  - Equipment Availability
    - Blackberry Back Up
- **Telecommunications**
  - Land Lines and Cell Phones
- **Interdependency Analysis**
- **Benchmark Industry**

What Should SCM Do?

Develop an Executable Disaster Business Continuity and Recovery Plan

- Focus on Safeguarding: People, Assets, Financial Stability, Customer Deliverables
- Determine How to Assure Business Continuity
- Identify threat Deterrents
- Development of Plan Requires Collaboration with:
  - Industrial Security
  - IT Support
  - Human Resources
  - Operations/Manufacturing
  - **Government Agencies**
  - **Industrial Supply Base**

What Should SCM Do?

Crisis Communication and Contact Plan

- **Need Points of Contact (POC) that are Readily Available**
  - Suppliers
  - Internal
    - Industrial Security
    - Human Resources
    - Operations/Manufacturing
    - Leadership
  - Customers
  - U.S. Government Agencies
  - Employees
    - Key Employees
    - Cascading Contact Plan

What Should SCM Do?

- **Contact Plan Requires POC Information:**
  - Name & Title/Role/Responsibility
  - Land Line Telephone Number
  - Cell Phone Number
  - Home, if Possible
  - Alternate POC

What Should SCM Do?

- **Determine How Long of a Downtime Period the Business can Sustain**
  - Number of Days/Weeks by Internal Function and/or Supplier
- **Determine Recovery Time Lines**
  - Facility Availability
  - Resources
  - IT and e-Business Systems Operation
    - MRP
    - Electronic Purchase Orders
    - Documentation and Release Data
    - Logistics and Routing
    - Finance

What Should SCM Do?

Supply Chain Vulnerability is Underestimated. So, What can We do with the Industrial Supply Base Beyond Exchanging POC Information?

- **Assess Where Weak Links may be**
- **Require Security and Preparedness Plans from Critical Suppliers**
- **Encourage Customs-Trade Partnership Against Terrorism (C-TAPT) Certification or Similar Involvement**
- **Review Who is Involved in Their Manufacturing and Distribution Chain**
  - ↗ Lower Tiers, also

What Should SCM Do?

- **Develop Alternate Suppliers for Critical Items**
  - Offshore Suppliers Backed up by Domestic Sources or from Alternate Low Cost Countries
    - Utilize 3rd Party Advisory Consultants to Validate Suppliers
- **Have Alternate Freight Carriers and Modes of Transportation Available**
- **Apply Technology**
  - Radio Frequency Identification (RFID)
  - Smart Chips

What Should SCM Do?

Summary:

- **Recognize there is Cause for Action**
- **Collaboration Between Industry, it's Supply Base, and U.S. Government Agencies is Mandatory**
- **Assess Threats and Vulnerability**
- **Create the Plan, Policies, and Procedures**
- **Assess the Level of Maturity of the Plan and Execute Accordingly**
  - ↗ Implementation is Top Down
- **Monitor and Measure**

Access → **Implement a Plan** → **Monitor**

Questions

THE BUSINESS OF CYBER VULNERABILITIES

Aaron Turner – CISSP, CISM

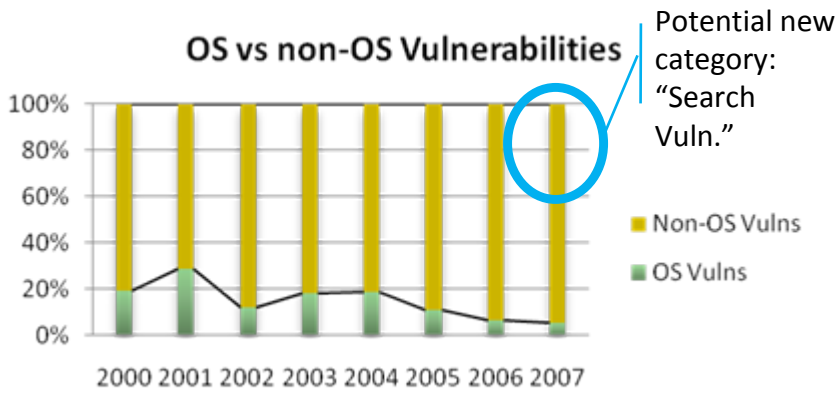
Idaho National Laboratory & I^3 Partners

Vulnerability Growth: 2000-2007

A historical view of the volume of security problems that have impacted computing systems in the last 7 years.

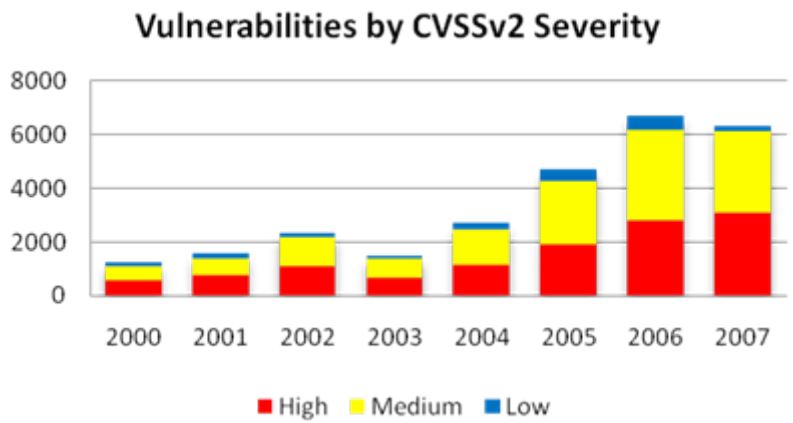
Vulnerability Trends

'Ubiquitous Applications' like Acrobat and Flash are providing new exploitation opportunities.



Severity Increasing

Increasing attacker efficiency is shown in the number and percentage of high-severity vulnerabilities that can be used for targeted attacks.



Industry-wide Problem

Skilled attackers are equal-opportunity exploiters. A listing of high-severity vulnerabilities from 2007 shows just how pervasive the problem is.

Vendor	Vulnerabilities	Percentage
Microsoft	148	4.3%
Novell	132	3.8%
Red Hat	127	3.7%
Ubuntu	115	3.3%
Apple	110	**3.2%**
Sun	85	2.5%
PHP	72	2.1%
Oracle	68	2.0%
Cisco	62	1.8%
Mozilla	48	1.4%

Full Point Increase vs '06

Vulnerability Growth 2000 - 2007

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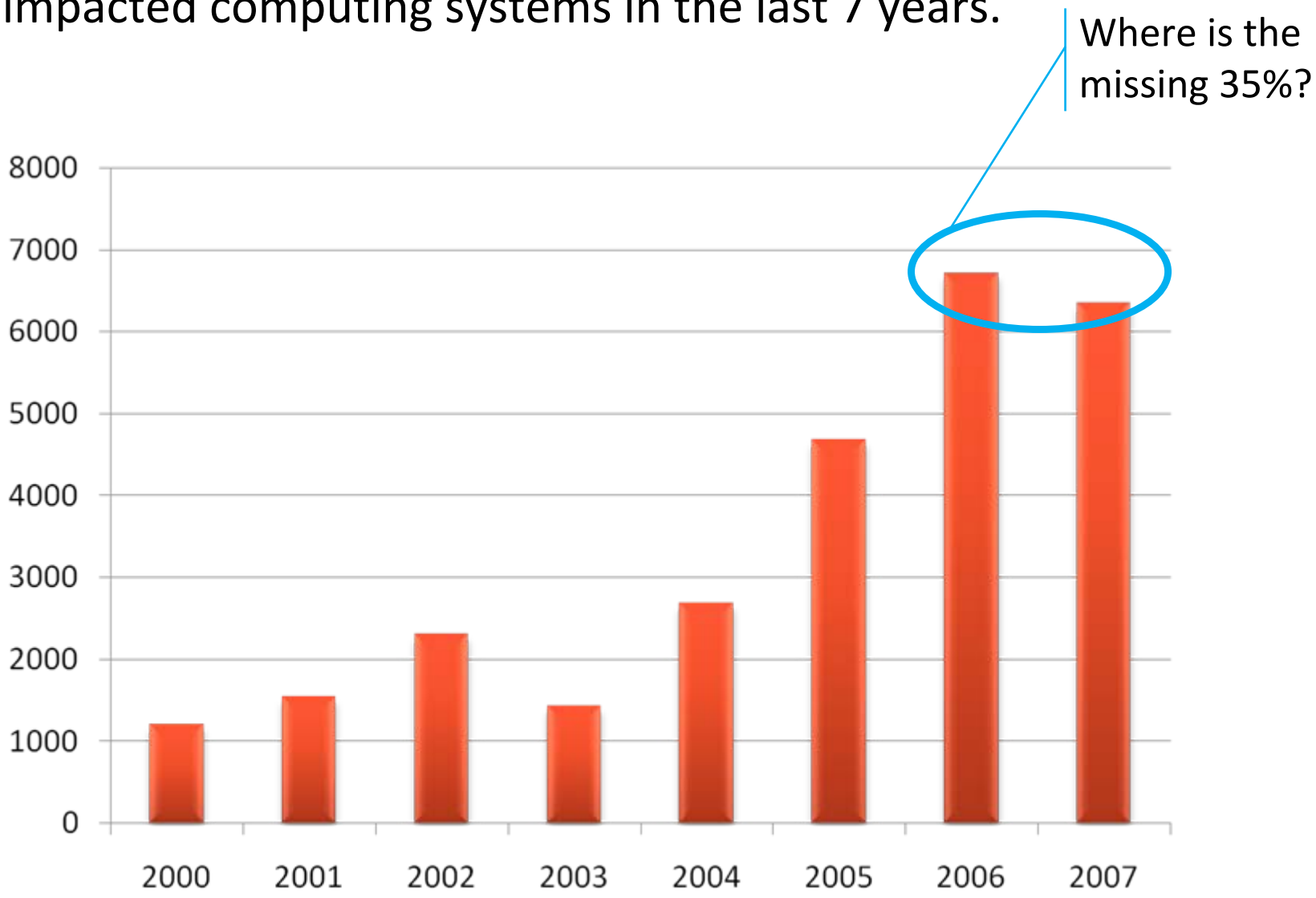

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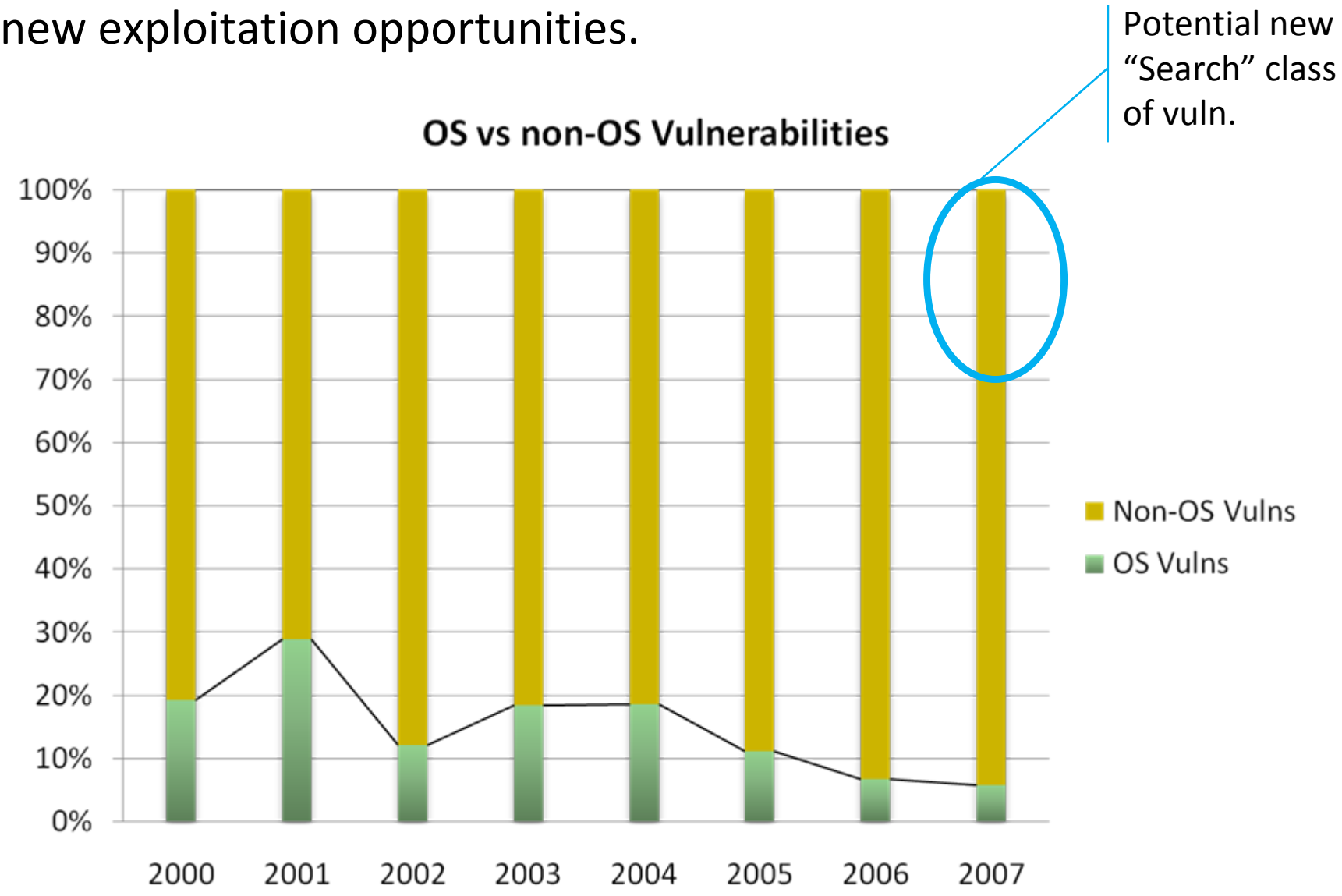

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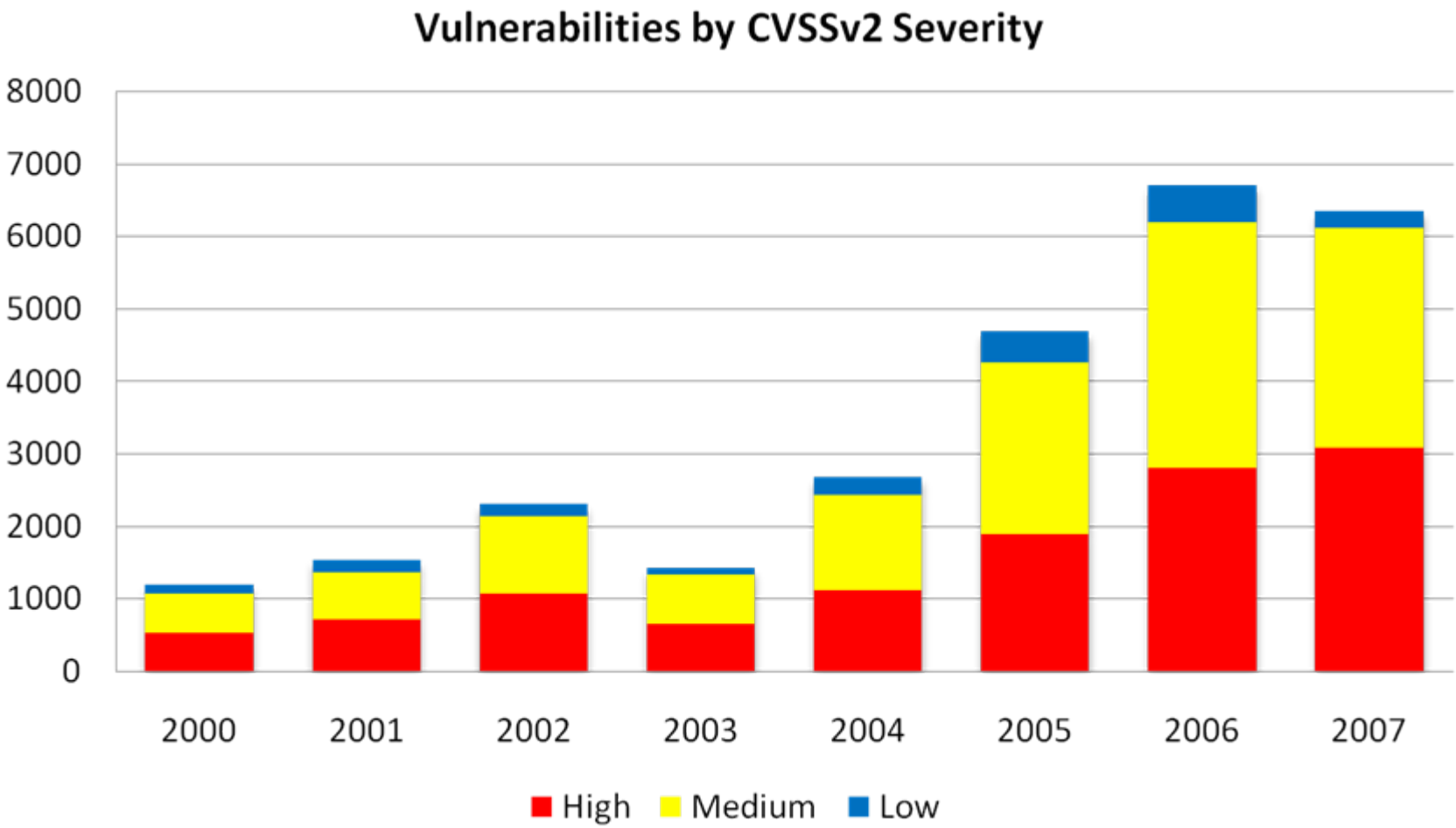

Equal Opportunity

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Full percentage point increase since '06

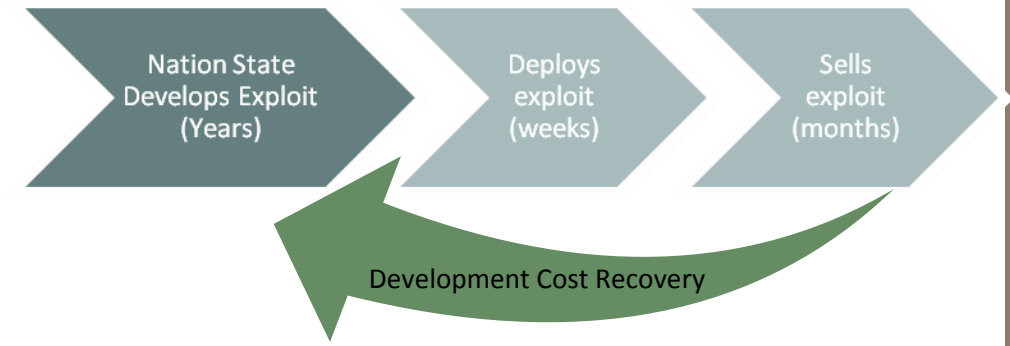
The Economics of Vulnerabilities

- An underground economy has been established for the production, distribution, exchange and purchase of vulnerabilities
- As with any economic system, the attacker community has succeeded in discovering efficiencies through specialization of labor
  - Vulnerability Factories
  - Vulnerability Wholesalers
  - Vulnerability Transporters
  - Vulnerability Consumers
- Examples:
  - 76service.com
  - Executive Phishing Services

The Vulnerability Market

In 2006, a complex vulnerability was discovered through telemetry from Microsoft's sensor networks.

Through further investigation, it was determined that the level of effort required to research the vulnerability and develop the exploit would have required significant effort and manpower. Within weeks of the targeted attack, the exploit was seen for sale within underground economy channels.



Leading Vulnerability Economies: % of Vulnerabilities to # of Total Estimated Computer Users by Country

Asia-Pacific	
Mongolia	25.0%
Thailand	8.2%
Macau SAR	8.1%
Vietnam	7.5%
Indonesia	6.8%

Middle East - Africa	
Bahrain	8.7%
Egypt	7.0%
Iraq	6.9%
Moroco	6.7%
Saudi Arabia	6.7%

Europe	
Albania	8.7%
Turkey	7.1%
Romania	4.6%
Portugal	4.4%
Russia	4.4%

The Americas	
Dom. Republic	9.4%
Brazil	7.4%
Honduras	6.9%
Jamaica	6.2%
Chile	6.1%

Special Thanks to:

Jeff R. Jones, Senior Security Strategist, Microsoft Corporation

All Vulnerability Data Referenced from:

Microsoft Security Intelligence Report
http://www.microsoft.com/sir

Additional Resources

Search Vulnerability:
- http://www.usatoday.com/money/industries/technology/2008-03-31-javascript-hackers_N.htm

76service.com
- http://www.cio.com/article/135500/2

Executive Phishing Services
- http://www.informationweek.com/news/showArticle.jhtml?articleID=206103681

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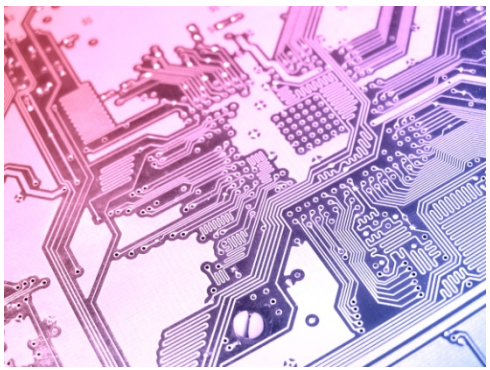
2008 DIB Critical Infrastructure Protection Conference & Technology Exhibition

Mr. Pete Verga
Principal Deputy ASD (HD&ASA)

POLICY

Agenda

- The Challenges We Face
- The National Security Environment
- DoD Preparedness & Response
  - Physical
  - Cyber
- Conference Challenge



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Welcome

The DIB is a worldwide industrial complex with capabilities to develop and maintain military weapons systems to meet military requirements

- +250,000 Defense Industrial Base (DIB) Sites worldwide
- DIB is critical to our nation and the war fighter
- DIB assets support DoD missions
- Vital to the DoD execution of the National Military Strategy
- Our collective efforts make a difference in war fighter's lives and missions

DoD values your contributions to maintain technologically superior, resilient industrial capabilities to preserve our nation's security.

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National Security Environment-Security Assessment

Nation-state threats will continue

- ❑ "Traditional" ballistic and cruise missile threats
- ❑ Rogue states employing asymmetric means
  - ➢ Both cyber and physical
- ❑ Potential emergence of a regional peer competitor

Natural Hazards

- ❑ Earthquake
- ❑ Flood, Tsunami
- ❑ Wildfire
- ❑ Health and Disease

Transnational threats will be the most pressing

- ❑ Terrorists will seek to:
  - ➢ Attack Americans and Western Allies at home and abroad
  - ➢ Inflict mass casualties or cause mass panic through CBRN means (e.g., CBRN weapons or conversion of civilian infrastructure or transport into WMD)

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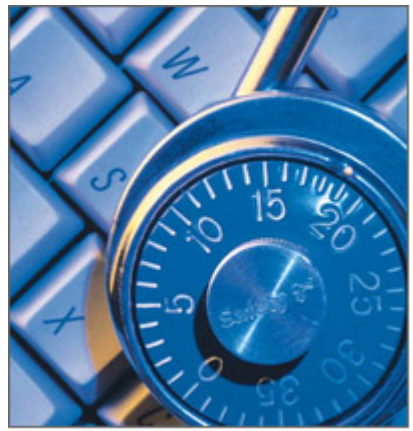
Challenges

- Collaboration
  - Partnership, shared responsibility, and Trust engendered by partnership
  - Information sharing and protection
  - Threat and warning information sharing
- HUMINT (Insider threat)
- Physical Threats and Hazards
- ***Cyber Security***



"Each of us has an extremely important role to play in protecting the infrastructures and assets that are the basis for our daily lives and that represent important components of our national power and prestige. The success of our protective efforts requires close cooperation between government and the private sector at all levels. "

- President George W. Bush

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Mission Assurance Concept

- Improve DoD's ability to execute its Mission Essential Functions in a stressed environment through integrating key programs & activities
- Comprehensively evaluate risk to DoD missions, including the unintended consequences of base consolidation & realignment
- Enable Senior Leader's ability to refine mission-related policies, plans, programs, resources, and activities, and more productively link policy decisions to operational requirements through:
  - Organizational Effectiveness
  - Funding Efficiencies – Making better informed resource allocation (e.g. budgetary) decisions that increase oversight and accountability
  - Compliance – Coordinating and consolidating Measures of Effectiveness (MOEs)

Mission Assurance is an integrating concept, NOT a change of ownership!

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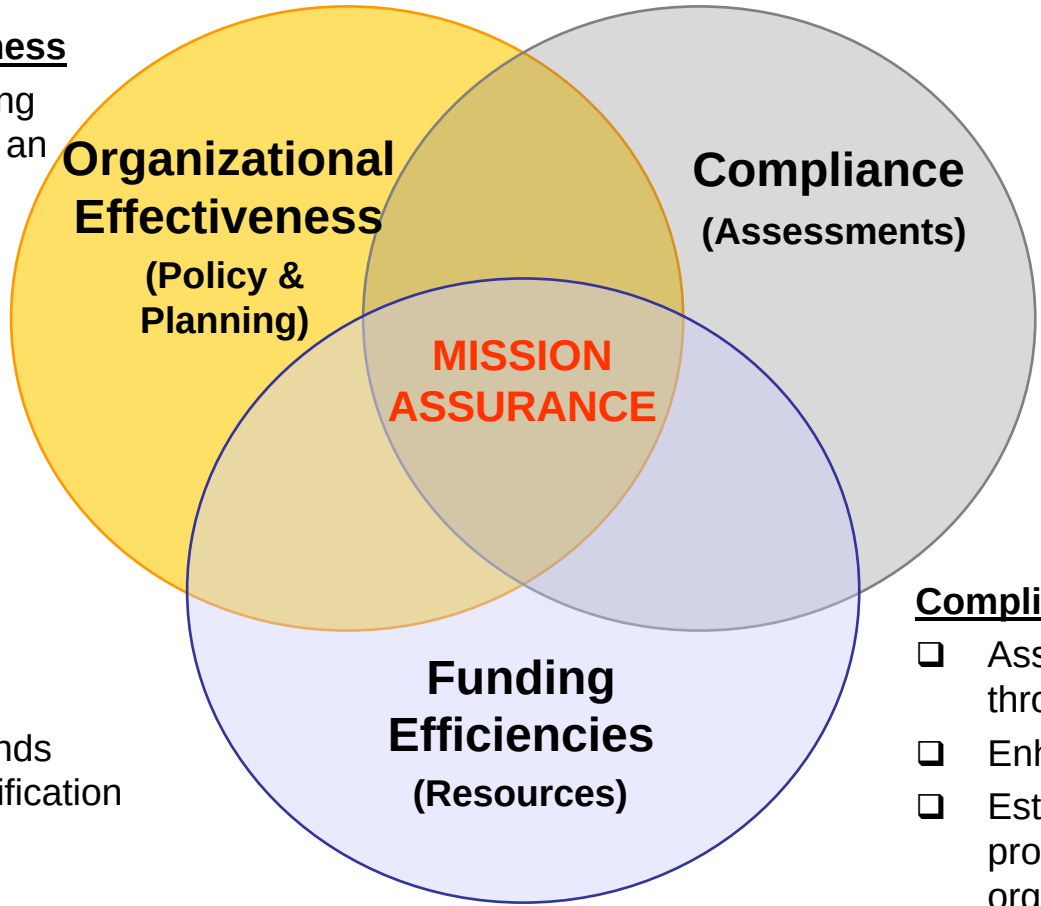
Mission Assurance – A Value Proposition

Organizational Effectiveness

- ❑ Improves relations among segregated elements of an organization
- ❑ Integrates disparate elements
- ❑ Improves operational efficiency and mission effectiveness



Funding Efficiencies

- ❑ Improves cost control
- ❑ Improves access to funds through prioritized justification of needs
- ❑ Prioritizes funding and resource allocation

Compliance

- ❑ Assures commitment throughout organization
- ❑ Enhances readiness
- ❑ Establishes governance process internal to the organization
- ❑ Accounts for applicable legislative requirements

Strategy for Defense Critical Infrastructure

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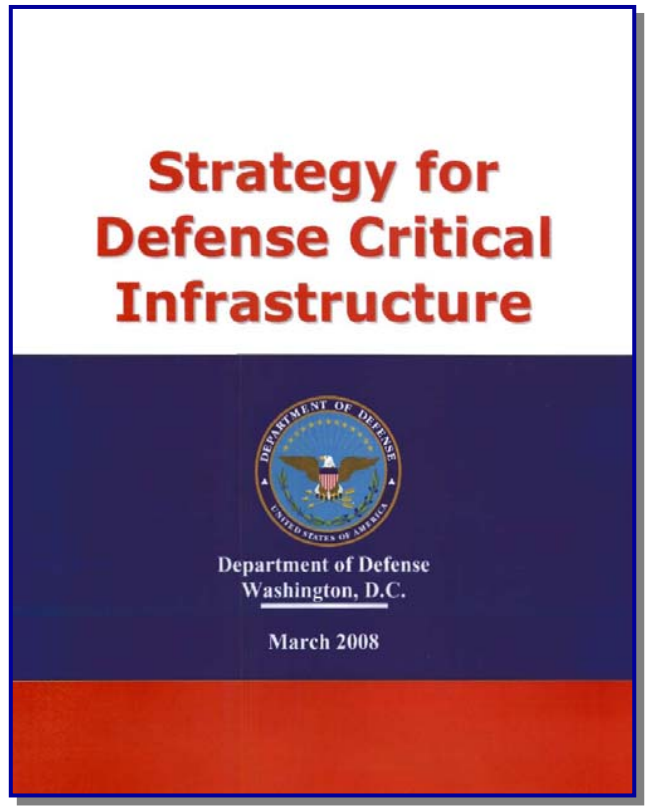
- Articulates DoD's risk management approach required for ensuring the availability of assets deemed essential to the successful completion of DoD missions in an all-threat, all-hazard environment

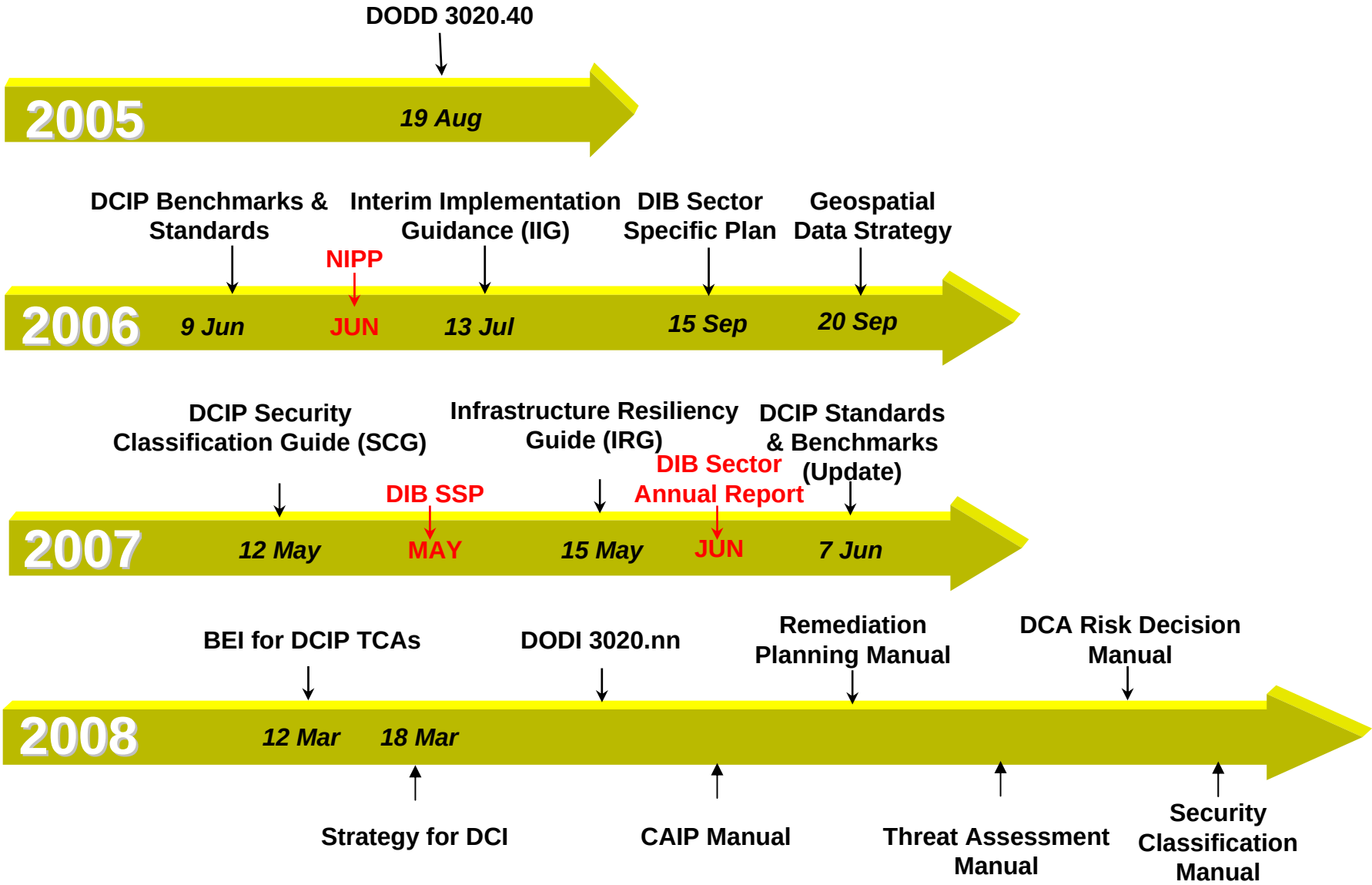
- Defines through stated goals & objectives how DoD will protect Defense Critical Infrastructure (DCI) to achieve mission assurance



  - **Goal 1: Provide DCIP policy and program guidance**
  - **Goal 2: Foster DCIP strategic partnerships and enabling technologies**
  - Goal 3: Integrate and implement DCIP plans, programs, and capabilities at all levels
  - Goal 4: Facilitate DCIP resourcing at all levels
  - Goal 5: Promote DCIP education and outreach

DCIP Strategic Policy Timeline

POLICY



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Partnering

- Partnering Leads to Real Success
  - Rotating electrical equipment / control system vulnerability
  - CIP-MAA assessment visits – information for owner/operator use
  - BZPP provided resources to improve first responder capabilities
  - Providing security awareness training for DIB partners
- Government and Private Sector
  - Team effort to produce the Sector Specific Plan – continues to grow
    - CIPAC public / private working group on Goals and Objectives
    - CIPAC public / private working group on cyber security
  - DCMA and DHS Protection Security Advisor visits
- Canadian Dept of National Defence (DND)
  - Establishing mutual awareness and assessment program (e.g. Joint Strike Fighter)

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Partnering Efforts

- DoD-DIB Information sharing
  - Providing best practices, expertise and information
- DoD-DIB collaboration on response actions
  - Response actions
  - Self-assessments
- Protected Critical Infrastructure Information (PCII)
  - Protects voluntarily submitted critical infrastructure information (CII) from public release under FOIA, civil litigation, and state and local "sunshine" laws.
  - ASD (HD&ASA) continues to pursue DoD accreditation under this program.

Leverage trust for two-way communication and share information for a shared purpose – assured availability

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Cyber Threat

- Hostile nations still pose a cyber threat to the United States because they have the intent and technological capabilities to do so.

- A cyber attack could substantially impact a number of sectors in the United States, including agriculture, emergency response and preparedness systems, transportation, energy, health care, financial services, and telecommunications.

Cyber Attacks are a REAL and EMERGING National Security Threat


AC360
CNN

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Cyber Security

- Cyber Security is a **National Effort**
  - DHS is lead agency for domestic cyber security
  - DoD will fully support national efforts with policy coordination, information sharing, and technology transfer
- DepSecDef directed USD(P) to lead **Cyber Security Task Force**
  - Chartered to implement NSPD-54/HSPD-23, Cyber security Policy
  - DoD members include NII, SOLIC, ATL, J5, Air Staff, and JTF-GNO
  - Interagency partners include DHS, DOJ, OTSP, DNI, and NSA
- ASD HD&ASA has DoD DCIP **mission oversight and policy responsibility**
  - Lead cyber security coordinator for DoD
  - Best positioned to interface with the interagency and leverage existing capabilities and competencies within DoD

Provide unity of effort across the Department and coordinate with interagency partners to improve national security against the full spectrum of cyber threats

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Conference Challenge

- What do you perceive as the greatest threats to CI/KR IT and communications networks?
- What are gaps and barriers to effective bi-directional information sharing?
- What types of information sharing are existing public-private partnerships and structures best at addressing?
- How can we share best practices, products, and standards?
- What existing and emerging technologies do you believe are most essential to enhanced CI/KR network security?

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QUESTIONS?

WE'RE AT WAR

ARE YOU DOING ALL YOU CAN?